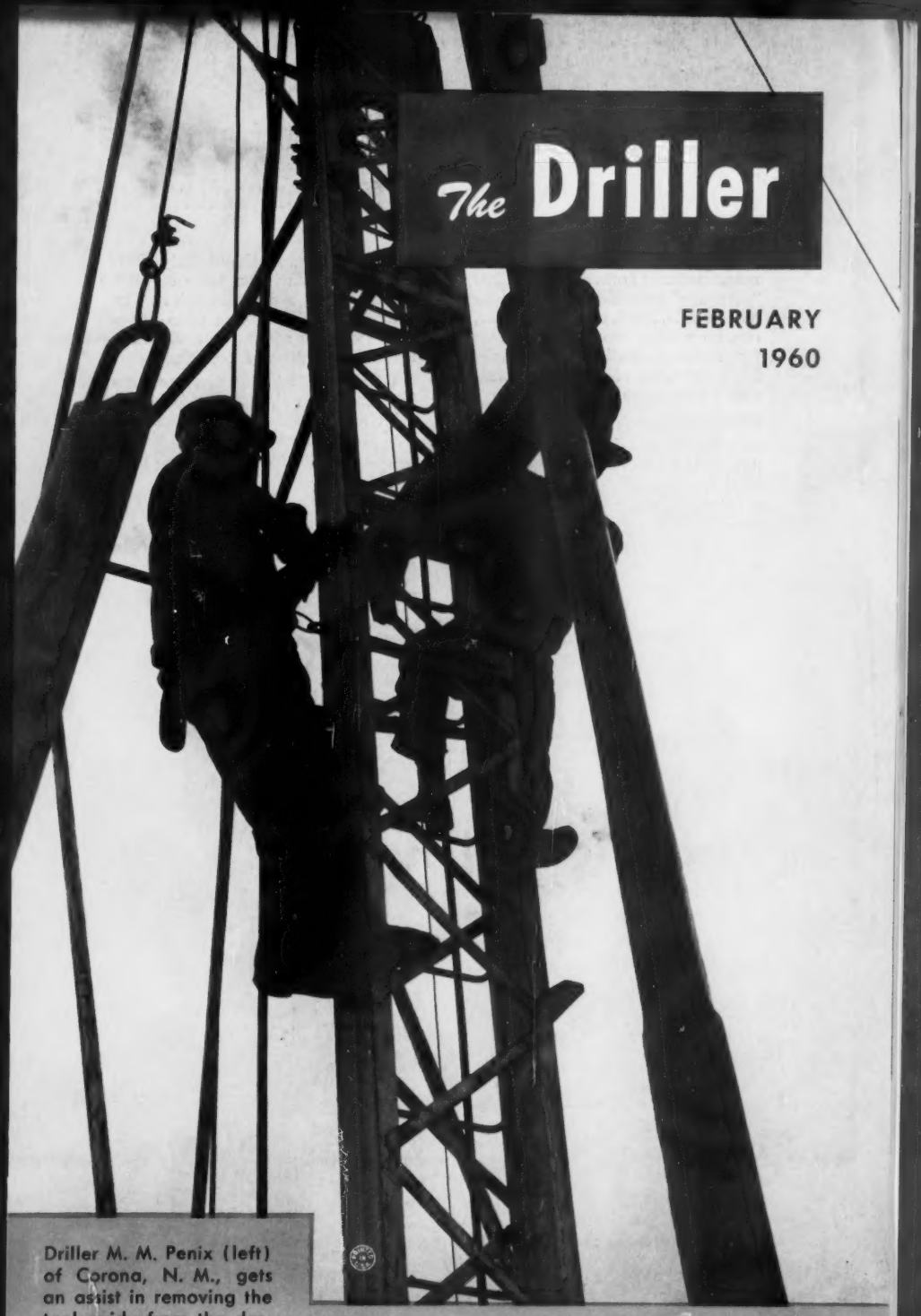
The Driller

FEBRUARY
1960



Driller M. M. Penix (left) of Corona, N. M., gets an assist in removing the tool guide from the derrick of his Bucyrus-Erie 60-L. Turn to page 22.

For a faster installation at less cost use

USS National Polyethylene Pipe for water wells

USS National Polyethylene Pipe is manufactured from only pure 100% "on grade" polyethylene raw material. Flexible, light, and easy to use, it can be readily worked into a well. Once in place, National Polyethylene Pipe provides efficient, economical service for years and years.

USS National Polyethylene Pipe is tough ...

- It resists attack by acids, alkalis and salts as well as other chemicals. Will not corrode.
- It won't crack or break due to rough handling, even at extremely low temperatures.
- It remains tough and flexible over its entire working range from minus 90°F. to above 120°F.

In addition, National Polyethylene Pipe imparts no taste or odor to the water passing through it. The smooth interior of the pipe offers very low flow resistance and deters the accumulation of deposits.

USS National Polyethylene Pipe is available in sizes from ½-inch to 6 inches in diameter, in a variety of wall thicknesses. Joints used are of the insert type, quickly secured with steel clamps.

For further information, write to National Tube Division, United States Steel Corporation, 525 William Penn Place, Pittsburgh 30, Pa. Specify Bulletin No. 29.

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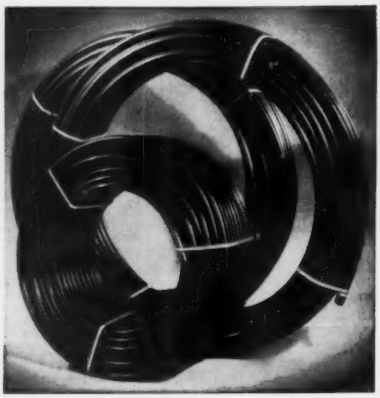

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Monitor PK

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Weldless Jars

. . . forged from ONE PIECE of Alloy Steel

NO WELDS TO BREAK . . .

Each SPANG WELDLESS JAR is forged from a single piece of selected alloy steel and is scientifically heat-treated and tempered to obtain proper hardness and toughness in the rein sections for maximum strength and wear resistance in the most severe drilling service.

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For over 60 years Manufacturers of Spang Weldless Jars and a Complete Line of Cable System Drilling and Fishing Tools for Oil and Gas Wells, Water Wells, Prospect Drilling and Shot Blast Holes.

City .....

The Driller

South Milwaukee, Wisconsin

Vol. 34 — No. 2

February 1960

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THE REDA "X-7"

FOR 3-INCH WELLS

½ H. P. — 115 VOLTS — SINGLE PHASE

The FIRST

Major Breakthrough

in Submersible Pumps

- **For wells from 20-175 feet — will pump up to 90 feet at 40 p.s.i.**

BREAKTHROUGH! to the 3-inch well market formerly the exclusive field for old type pumping equipment.

BREAKTHROUGH! well codes preventing installations of submergibles in 4-inch wells.

BREAKTHROUGH! to greater sales and wider markets for submergible pumps.

BREAKTHROUGH! to more water at lower cost compared to other types of pumping equipment.

Now owners of 3-inch wells, formerly restricted to old style pumping equipment, can enjoy the advantages of a modern Reda Submergible Pumping System. For the first time a submergible pump is available for wells with less than 4-inch diameter — the new Reda "X-7" for 3-inch wells, the latest addition to Reda's complete line of submergible motors and pumps. This is the first major breakthrough in submergible pumps since the Reda Pump Company introduced the first submergible motor-pump unit for a 4-inch well.

WRITE TODAY for bulletin R-685

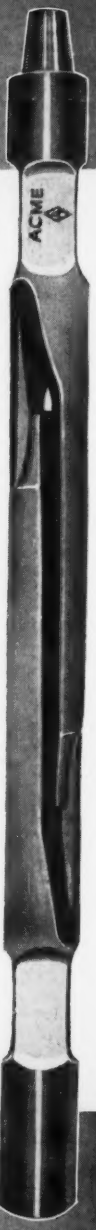
PIONEER AND LEADER OF THE FIELD

REDA PUMP COMPANY

BARTLESVILLE, OKLAHOMA

Manufacturer of Submergible Electric Motors and Pumps for Over 35 Years

There is more than meets the eye in...



ACME DRILLING JARS

Carbon or Alloy Steel

You can't see the higher quality steels and the controlled heat treating procedures that help make Acme jars last longer. Nor can you see the experience and integrity that stand behind these Acme products.

But you can see the Acme trademark—the stamp that means these jars have passed many exacting tests of quality control.

Acme offers two types of drilling jars—**CARBON STEEL**, first choice with many drillers and **ALLOY STEEL**, for extra footage and longer life.

Both type jars are warranted for a specific amount of wear—NO time limitation on the warranty.

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Sold through dealers everywhere

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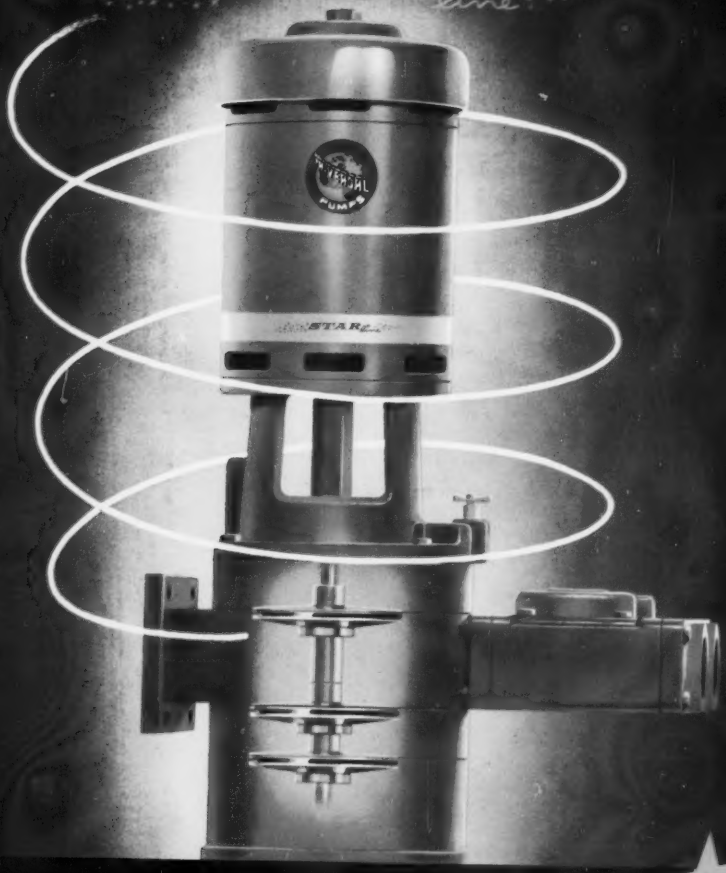
UNIVERSAL

STAR line



Series JD

Self-Priming DEEP PRIME JET Multi-Stage

UNIVERSAL multi-stage jet pumps provide all the extra water and extra water pressure you can use

Labor saving conveniences for today's modern home, farm or industrial use demand a lot more water and considerably more pressure than old style pumps are able to produce.

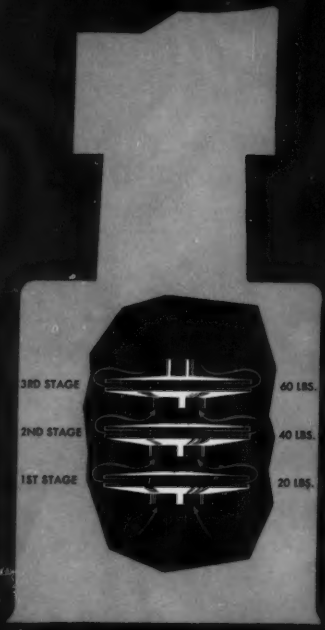
Dish washing machines, automatic laundries, lawn sprinklers, hoses for many watering or cleaning chores make it necessary to have a modern, multi-stage pump capable of delivering greater-than-average water pressure.

MULTI-STAGE pumps mean MORE WATER PRESSURE

A multi-stage pump is made up of several impeller stages, one above the other. As water is pumped, each spinning impeller increases the pressure of the water as it passes from a lower stage to the next higher impeller stage.

For example, suppose that each impeller stage adds 20 pounds pressure to the water being pumped. As shown in the illustration at right, a pump having three impeller stages, then, might produce three times the amount of pressure obtainable from one impeller stage only — or 60 pounds pressure (theoretical, not actual figures). The more impeller stages in the pump, the more water pressure possible.

Universal Star line pumps are multi-stage design, built of several impeller stages to provide the desired higher water pressures for today's modern living.



UNIVERSAL features protected by patents

Many of the exceptional features of the Universal Star line are fully protected by United States Government patents.

UNIVERSAL

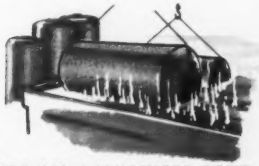
DEEPRIME JET
Self-Priming
Deep Well Jet Pump

Brightest star of the new Star line is the Series JD . . . the Universal Deeprime Jet, undoubtedly the finest pump and water system ever built.

The Deeprime Jet is a self priming, multi-stage deep well jet pump. It is completely automatic and foolproof in operation, the pump actually seems to think. If there's water in the well to be pumped, the Deeprime Jet will get it . . . all of it. If the water level gets pumped down, the Deeprime Jet will cut itself off and wait. The pump won't clog or wear excessively like other types of pumps if pumping sandy water . . . won't lose prime if pumping gaseous water.

UNIT TYPE ELECTRIC MOTOR

Highest quality, nationally known make of vertical, unit type electric motors are used exclusively with Universal Deeprime Jet pumps. Ball bearings. Drip proof. 3450 rpm, 60 cycles; 2900 rpm, 50 cycles.



HOT DIP GALVANIZED TANK

Tanks for Deeprime Jet water systems are blue ribbon quality to insure longer life, cleaner, fresher water. High temperature galvanizing zinc dip fills every pore and seam to prevent rust. Accurately threaded openings, double thick bottom.

AUTOMATIC AIR CONTROL

Every Universal Deeprime Jet water system may be supplied with a Jet Charger automatic air control. The Jet Charger prevents pressure tank water-logging, eliminates the need for tank draining. Cuts power cost. Reduces motor wear.

HEAVY DUTY PUMP CASTINGS

Castings for Universal Deeprime Jet pumps are made of finest close-grain grey iron, and are heavy duty, extra thick construction for firm, vibration-free operation. Castings undergo rigid testing and inspection to eliminate even minor flaws.

MECHANICAL SHAFT SEAL

Universal Deeprime Jet uses open type mechanical shaft seal. Seal fits snugly around stainless steel pump shaft to prevent water leakage at high pressure area at top stage. Seal is self-cleansing . . . contains no dead air space. Packing gland is available upon specification.

QUALITY BRONZE CONSTRUCTION

Bronze alloy is recognized metal of extreme durability and strength, capable of great resistance to friction. Universal uses generous amounts of long-life bronze in the Deeprime Jet—wherever it can add to the life of the pump.

PROVEN to be years ahead . . .

UNIVERSAL

DEEPRIME JET

SELF-PRIMING VALVE ASSEMBLY

The Universal Deeprime Jet may be supplied complete with a self-priming valve assembly which is bolted directly to the pump. The assembly consists of twin check valves which make the water system 100% self-priming, and no foot valve is required in the well. Supplied without the self-priming valve assembly, the Deeprime Jet will remain primed when a foot valve is installed in the well.

How the Deeprime Jet Operates

Note in the pipes at right, one pipe (the "suction pipe") contains light blue water filled with air bubbles. This is low pressure water being brought up from the well by the injector (jet).

The other pipe (the "pressure pipe") contains air-free water, illustrated as darker blue, which is being returned to the well under considerable pressure. This higher pressure water goes down the pressure pipe, through the bronze jet, submerged below the water level in the well, creating a vacuum. This vacuum draws up more water from the well, through the "suction pipe" (light blue water). As the low pressure water from the well enters the priming valve assembly, the check valve poppet is raised and the water is directed to the first spinning bronze impeller. The water is passed from one impeller to the next higher impeller until the desired pressure is reached. This air-filled water is then by-passed into the pressure tank.

The air rises to the top inside the pressure tank. Part of the air-free water in the tank is returned to the multi-stage pump (note darker blue water) where pressure is increased by one or more impellers. After reaching the top impeller, this high pressure water is bypassed to the pressure pipe and the injector in the well in order to bring up more water. As this high pressure water passes through the priming valve assembly, the other check valve poppet rises. When enough water has been pumped for current needs, the pump stops automatically and both check valves close immediately. The twin check valves hold the pump primed for future use.

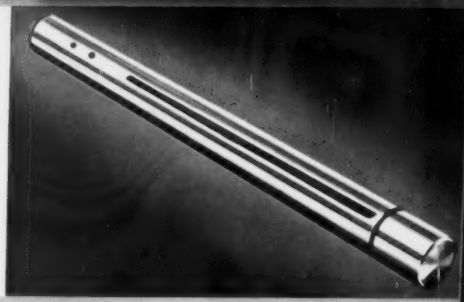
The Deeprime Jet is available for self-priming service on wells to 400 feet.

Original
Universal Injector
requires no foot valve
when installed as illustrated

MANY EXCLUSIVE CONSTRUCTION FEATURES

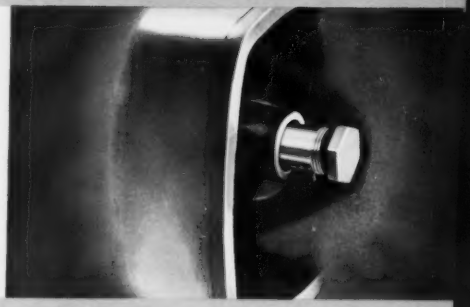
Centerless ground shaft

Only the highest quality stainless steel is used for the pump shaft of the Universal Deeprime Jet. Unlike conventional shafting, however, the Deeprime Jet shaft is centerless ground. In less technical terms, this means that the shaft is perfectly straight and perfectly round. Hence, the shaft runs without whip or vibration, assuring longer life to bearings, mechanical seal and other internal pump parts. The shaft itself is over-size for added years of uninterrupted service.



Threaded tail bearing

The tail bearing, located in the bottom casting of the pump, takes the greatest abuse and is usually the first part to show wear. The tail bearing of the Universal Deeprime Jet is over-size and of all bronze construction. It is protected by a sand-cap to prevent entrance of foreign matter and lessen wear. This oversize bronze tail bearing, however, is threaded into the pump base from the outside so that replacement is quickly and easily accomplished without disassembly of the pump.

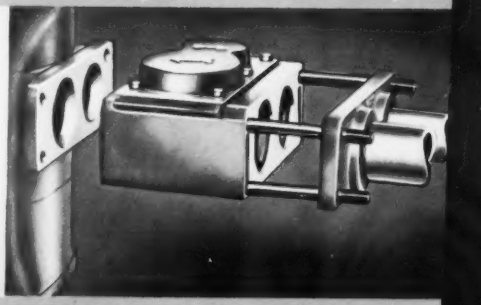


Impeller keyed to shaft

Each bronze impeller of the multi-stage Deeprime Jet pump is held securely to the centerless ground shaft by a keyway and key. This key arrangement locks the impeller firmly to the shaft without the use of the set screws. Close tolerance between the shaft, the key and the impeller eliminates any play that might set up vibration and cause wear on internal pump parts. The key provides assurance that the impeller will not become loose on the pump shaft.

Flanged piping connections

Piping to the well is threaded into a cast iron flange which is bolted to the priming chamber or to the pump base. Four bolts hold the flange in place and a gasket prevents leakage. The distinct advantage of this feature is that the pump will be easier to install initially and well piping need never be disturbed should it ever be necessary to remove the pump from the well location for any reason thereafter. Loosening four nuts will free the pump, leaving all slip couplings intact.



DEEPRIME JET

Parallel Pipe or Single Pipe Installation

The Universal Deeprime Jet deep well water system may be installed using two parallel pipes or with a single pipe, either with or without the priming valve assembly.

You may use two parallel pipes and a parallel-pipe injector if the well diameter is 4 inches or greater.

You may install the Deeprime Jet with an inner pipe (single pipe) injector if the well diameter is 2 inches or greater.

Whether the parallel pipe or single pipe injector is installed, no foot valve is required in the well if the Deeprime Jet installation is complete with a Self-Priming Valve Assembly.

NO WORKING PARTS IN WELL

Nothing moves in the well but water. The electric motor, every working part is on top of the ground. There's nothing to pull from the well for servicing.

NEEDS NO LUBRICATION

The pump is lubricated with water from the well, and the electric motor is factory pre-lubricated for years of service. No grease or oil is needed.

NO PUMP PRIMING

Once primed, the Deeprime Jet stays primed. It won't lose prime if well gets pumped down or if pumping gaseous water. Even after power failure, Universal Deeprime Jet remains primed.

NO CONTROL VALVE

Deeprime Jet requires neither a manual or automatic control valve. Nothing to get out of adjustment. Pump uses no throttling device.

NO FROST-PROOFING REQUIRED

When pump stops, horizontal piping and pipes above water line drain free. There's no need to wrap or deeply bury pipes from well to pump.

USES NO FOOT VALVE

Deeprime Jet requires no foot valve in the well to become worn or clogged. There's no poppet to stick open. All valves are on the surface, at your fingertips.

Deeprime Jet eliminates common pump problems

Submersible Pumps, too!

THE UNIVERSAL SUBMERSIBLE

. . . built for future satisfaction

The finest submersible pumps are built by Universal . . . also one of the oldest manufacturers of submersible pumps in the western world. These 100% American made pumps are representative of the quality for which Universal has become famous. The generous use of long-life bronze and stainless steel wherever wear or corrosion might be expected gives added years of trouble-free service to Universal Submersibles. The expert engineering design for Universal submersible pumps sets a new high for efficiency.

For whatever use the pump is needed—if the well is deep and a lot of water is desired—the sound investment is a Universal Submersible. The *price* paid for a pump will be forgotten soon after it is installed, but the *performance* of that pump will be remembered for many years to come—every time a faucet is turned on. Be sure of *future* satisfaction. Install a Universal for your customers.

OTHER UNIVERSAL PRODUCTS

TURBINE PUMPS

A wide assortment of sizes and types of turbine type pumps are made by Universal. Inexpensive package turbines are available for 4 and 6-inch wells, as well as conventional deep well turbine pumps for irrigation or industrial water supply.

CENTRIFUGAL PUMPS

Universal makes a complete line of centrifugal pumps, including pumps for air conditioning, hot water circulating, high pressure service, industrial water supply and irrigation. Special pumps are available for handling brine and chemicals.

SUMP PUMPS

Besides the popular column type basement drainer, Universal makes the newest design submersible sump pump for homes, stores and industrial applications. In addition, large non-clog industrial sump pumps and tailwater pumps are available from Universal dealers.

DEALERSHIPS AVAILABLE for the new STAR line...

five completely new series of water systems: FOR DEEP WELLS, self-priming jet systems for lifts to 400 feet; FOR SHALLOW WELLS, self-priming jet systems for lifts to 25 feet; SUBMERSIBLES, for 4, 6, 8 inch diameter wells and larger. *Several territories now open.* Write for details.

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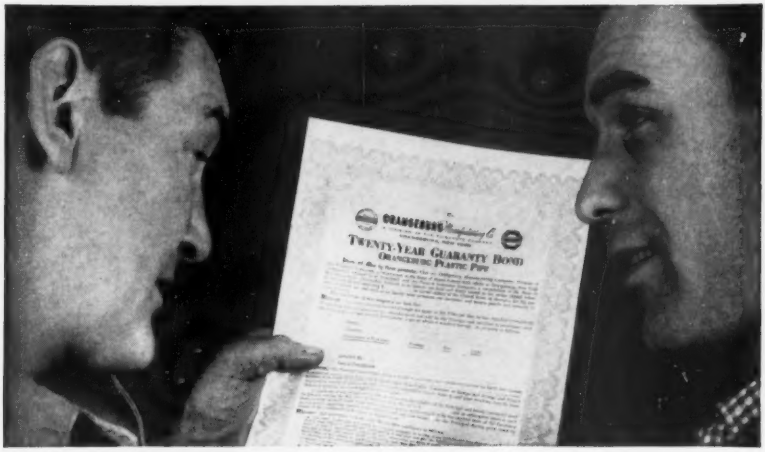
Address factory office nearest you or write Universal Mfg. Co., Richmond, California

Now you can tell customers **"...the plastic pipe on this job is guaranteed and bonded for 20 years!"**



It's ORANGEBURG® *SP*® *Plastic Pipe*

What a selling point! Tell your customer you use *slit-proof* Orangeburg *SP*—the *only* plastic pipe Guaranteed and Bonded for 20 years for cold water service. Tell him, too, the Bond will be made out in *his* name as written evidence you have used the finest-quality plastic pipe available.

Under terms of Bond, repairs or replacements, INCLUDING LABOR COSTS, *due to failure of pipe will be made at Orangeburg's expense. You can't lose.*

And it's easy to apply for the Bond. When Orangeburg *SP* installation is completed, send *"Request for Bond"* Form to Orangeburg. After approval, Bond is sent direct to your customer.

Be first to cash-in with Orangeburg *SP* Plastic Pipe and the exclusive iron-clad 20-year Guaranty Bond offer. See your Authorized Orangeburg Wholesaler or write Dept. D-20

Approved for drinking water by National Sanitation Foundation NSF FLINTKOTE

ORANGEBURG MANUFACTURING CO. • Orangeburg, N. Y. • Newark, Calif.
A Division of The Flintkote Company, Manufacturers of America's Broadest Line of Building Products

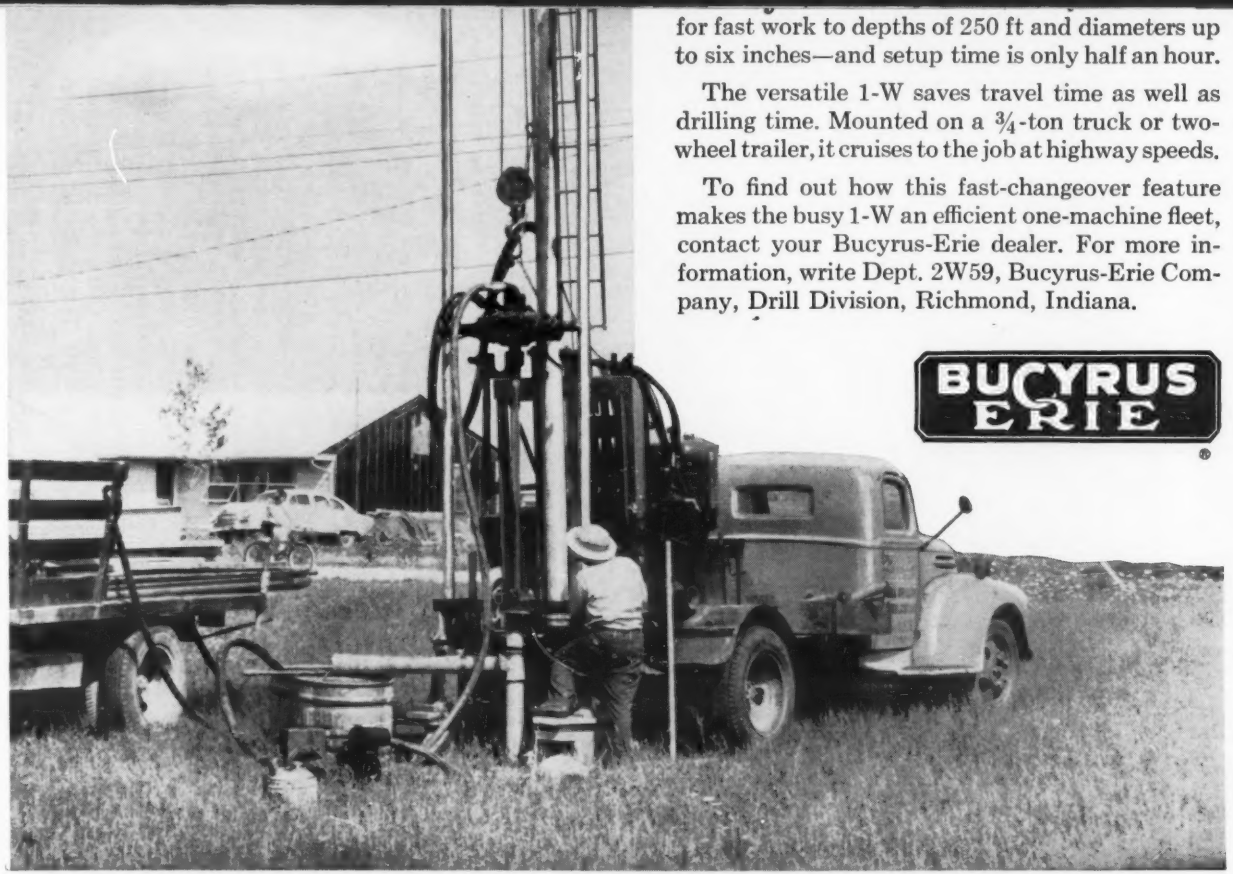
General Electric now offers

What kind of equipment will your next drilling job call for?

Jetting? The Bucyrus-Erie 1-W is your machine. Fifty or sixty feet of four-inch well is a normal two-hour job for the 1-W — and it takes only about ten minutes to set up.

Hollow Rod? Use the 1-W. It not only drills faster than cable tool in sand and clay, it puts down well casing simultaneously. Setup time is only ten minutes.

Cable Tool? Try the 1-W. It will put down a two, three or four-inch hole surprisingly fast... handle up to 500 lb of tools at 225 ft. You can



for fast work to depths of 250 ft and diameters up to six inches—and setup time is only half an hour.

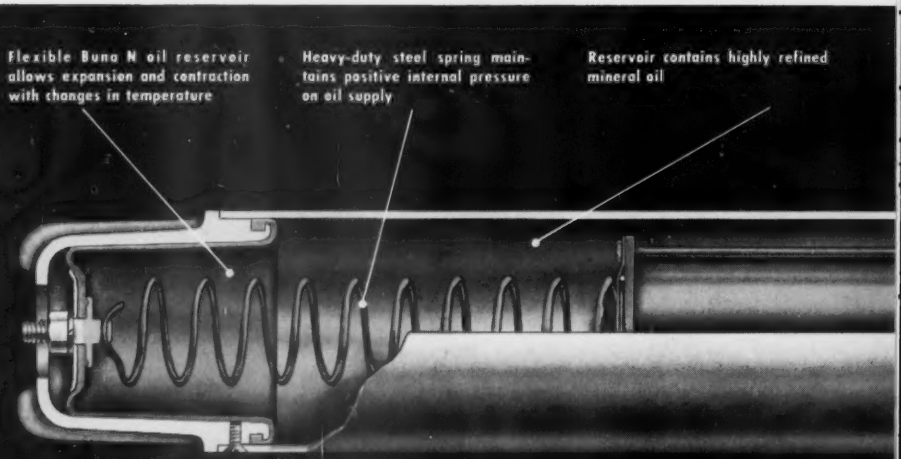
The versatile 1-W saves travel time as well as drilling time. Mounted on a ¾-ton truck or two-wheel trailer, it cruises to the job at highway speeds.

To find out how this fast-changeover feature makes the busy 1-W an efficient one-machine fleet, contact your Bucyrus-Erie dealer. For more information, write Dept. 2W59, Bucyrus-Erie Company, Drill Division, Richmond, Indiana.

BUCYRUS ERIE®

General Electric now offers

NEW TWO-WIRE, OIL-FILLED


Flexible Buna N oil reservoir allows expansion and contraction with changes in temperature
Heavy-duty steel spring maintains positive internal pressure on oil supply
Reservoir contains highly refined mineral oil

TWO-WIRE DESIGN ELIMINATES OUTSIDE CONTROLS FOR FAST, EASY INSTALLATION

General Electric now offers a new two-wire, oil-filled submersible pump motor for four-inch well applications that greatly simplifies motor installation and hookup.

The new two-wire motor features a running capacitor built inside the motor to provide inherent quiet operation. There are no outside controls and the two-wire design eliminates chances for error or confusion during hookup. This new motor is the result of the experience and know-how G.E. has gained in successfully powering thousands of submersible pumps during the past seven years.

Install it! Forget it! There's no maintenance required. The new permanently-lubricated General Electric motor can carry the same high service factor loads first introduced in G.E.'s 3-wire submersible pump motor, without fear of mechanical damage. For instance, a G-E ⅓-hp motor can do many jobs that formerly required a ½-hp motor. *Unrestricted* windings, free to expand and contract with variations in temperature, practically eliminate the adverse effects associated with stalled or overload conditions; give the new G-E motor unsurpassed reliability.

Oil-filled design keeps moisture out! A flexible oil reservoir, held under constant compression by a heavy-duty steel spring, maintains positive internal pressure of oil at all times to keep water out. Moisture-resistant Mylar* polyester film slot insulation and Formex** wire protect against aging and electrical stresses.

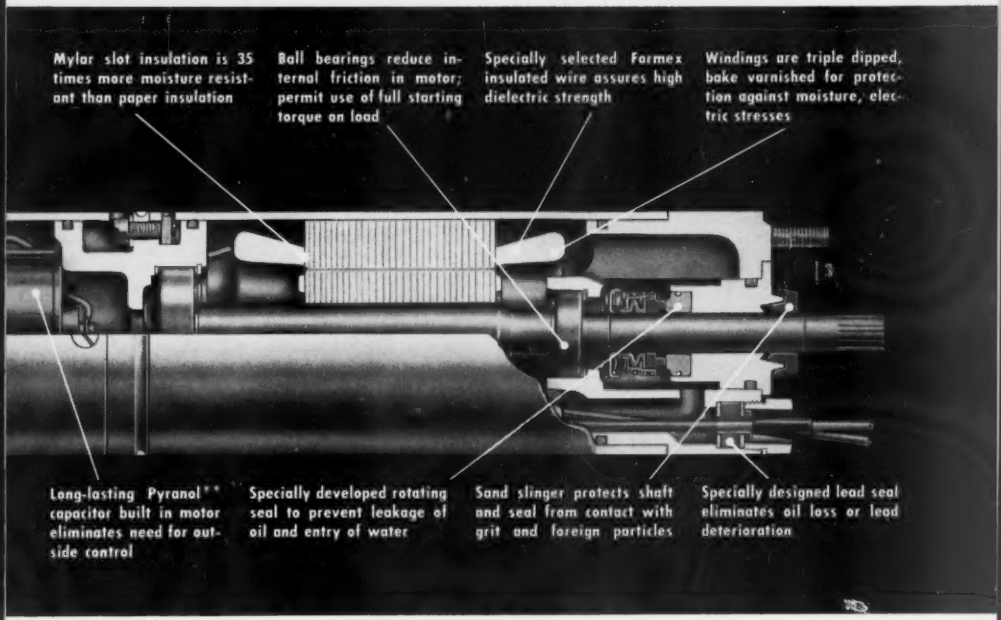
Why not investigate General Electric submersible pump motors today—available in ratings of ⅓ to 5 hp. Contact your Apparatus Sales Office or write for Bulletin GEA-6996, General Electric Co., Schenectady 5, N. Y.

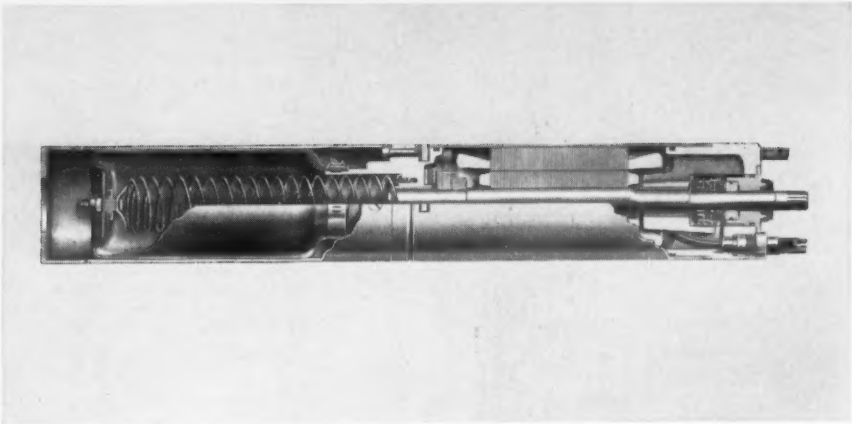
738-2

* Trade-mark of DuPont Co.
** Reg. Trade-mark of General Electric Co.

GENERAL ELECTRIC

SUBMERSIBLE PUMP MOTORS


Mylar slot insulation is 35 times more moisture resistant than paper insulation
Ball bearings reduce internal friction in motor; permit use of full starting torque on load
Specially selected Formex insulated wire assures high dielectric strength
Windings are triple dipped, bake varnished for protection against moisture, electric stresses
Long-lasting Pyranol** capacitor built in motor eliminates need for outside control
Specially developed rotating seal to prevent leakage of oil and entry of water
Sand slinger protects shaft and seal from contact with grit and foreign particles
Specially designed lead seal eliminates oil loss or lead deterioration



GENERAL ELECTRIC ALSO OFFERS 3-WIRE SUBMERSIBLE PUMP MOTORS AND MOTOR PARTS

You'll find pumps are easier to sell when they're equipped with General Electric's proved, oil-filled submersible pump motors—available in both two- and three-wire design. Submersible pump motor parts are also available.

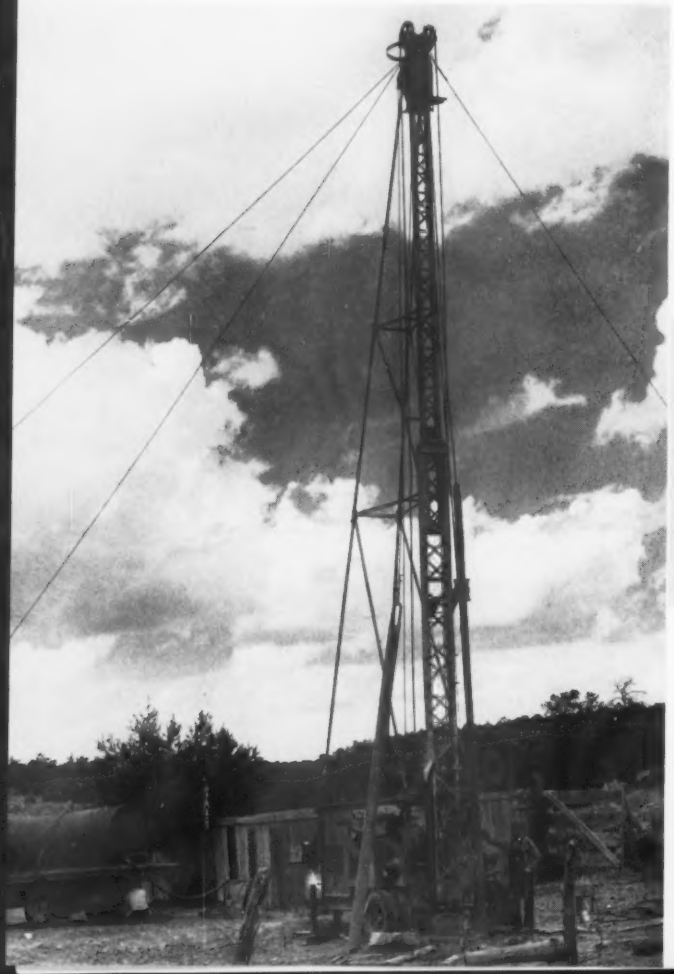
Retirement Solution:

by RAY DAY

"THE worst occupation in the world is one in which you can't work. When I say that, I mean retirement."

M. M. Penix of Corona, N.M., looked up from his drilling and kicked at the casing to give emphasis to his words. "I retired from the Southern Pacific Railroad as a signal maintenance man 12 years ago," he said. "If I hadn't bought quite a bit of ranch land during my working years and then got interested in drilling to build up the ranch, I know I wouldn't be as happy as I am right now."

Wiry, tough as nails and still in good health, Penix is capable of running his own rig without help. His drilling started originally as a hobby to help develop his ranch acreage—a 22-square mile spread centered around Corona in central New Mexico. He's broadened his hobby now to include drilling stock-watering wells for neighboring ranchers, and when the pictures



Penix spuds in with his 60-L on a municipal well for the little village of Corona, N.M., about 150 miles southeast of Albuquerque. Most of Penix's work consists of drilling stock watering wells for ranchers around Corona.

Buy a Well Drill

Penix removes tool guide from derrick when he reaches depths where it is no longer needed. A Corona resident (left) who came to watch drilling operations helps lift contrivance out of work area.

for this article were taken, Penix had his Bucyrus-Erie 60-L drilling a municipal well for the little village of Corona.

Water is his hobby. Since he began buying up all the ranch land he could get (at $1 to $1.50 an acre) during the 27 years he was stationed around Corona on the railroad, Penix studied water-bearing formations in his state and formed a healthy respect for a good well.

As water producing areas go, this one is not the best in the world. An 8-in. well will frequently have to be drilled 500 feet deep to get a flow of 50 gpm. But each well Penix brings in is an asset to his ranch, his state and his country. In fact, through various government agencies which finance well development, he has done much drilling on his own property. It's been successful, too. Last year his ranch marketed 1,100 lambs and 300 calves. It took water to put that meat on the market — water a man in "retirement" drilled himself.

Penix first developed his interest in drilling about 15 years ago. At that time he began pushing fairly hard to develop his ranch. He became seriously interested in water-well drilling when driller George Perry—another New Mexico well driller—drilled the first wells for Penix. Penix was always an interested bystander when Perry was around. He soon became acquainted with what a well drill does

View of drilling site shows rugged, hard rock country. Penix swings heavy set of tools to get through formations fast. At left is water tank truck.

and with all the pitfalls that can hamper a driller.

The time eventually came when he wanted to toy around with his own machine. A used Bucyrus-Erie 21-W which a California driller owned was for sale. Penix bought it and shipped it to his ranch. He didn't break himself in slowly, either. His first well was more than 500 feet deep and brought in a fair supply of water.

On that well, Penix ran into what almost always has been a perpetual problem around the Corona area, famous for producing about one gallon of water per minute at a depth of about 300 feet. If a driller seals off the hole at that point with casing, it means reducing the well diameter from that point down and not getting as good a well as might otherwise be developed. But if drilling continues without casing, there is danger of caving. And caving is always a serious problem.

Good Performance

Penix drilled several successful wells on his own property and was pleasantly surprised at the ease with which the 21-W performed. "I was even surprised at being able to oper-

ate the machine without hiring a skilled driller," he said.

Eventually, a buyer for the 21-W came along. Well drills were rather scarce in the area, and the man asked him to put a price on the machine. Penix did, thinking the price he quoted would make the man think twice. But the buyer took him up immediately, and Penix was out of the drilling business, at least until he could find another rig.

After looking over the market, he settled his wants around the Bucyrus-Erie 22-W. This time he wanted a new machine, but he couldn't get shipment on one for several months. Never one to quit, Penix took a trip to San Antonio, Tex., where he heard a used 22-W was for sale. The machine was in excellent condition. He brought it back to New Mexico and had soon drilled a total of 13 wells over his property.

The 60-L was purchased new several years ago and has added considerable drilling capacity to Penix's work. He likes the rig's power. It's small enough for one man to operate but big enough to do almost any size job. The main cable spools and catheads can be operated both ways under power; the derrick is strong and sturdy; and, if casing must be handled, the machine has plenty of reserve power to pick up long strings. Also, for drilling in hard crystallized sandstone, it can be strung with close to 4,000 pounds of drilling tools and still be operated safely.

Moving from job to job is done with a Chevrolet truck, which can hook on to either of the trailer-

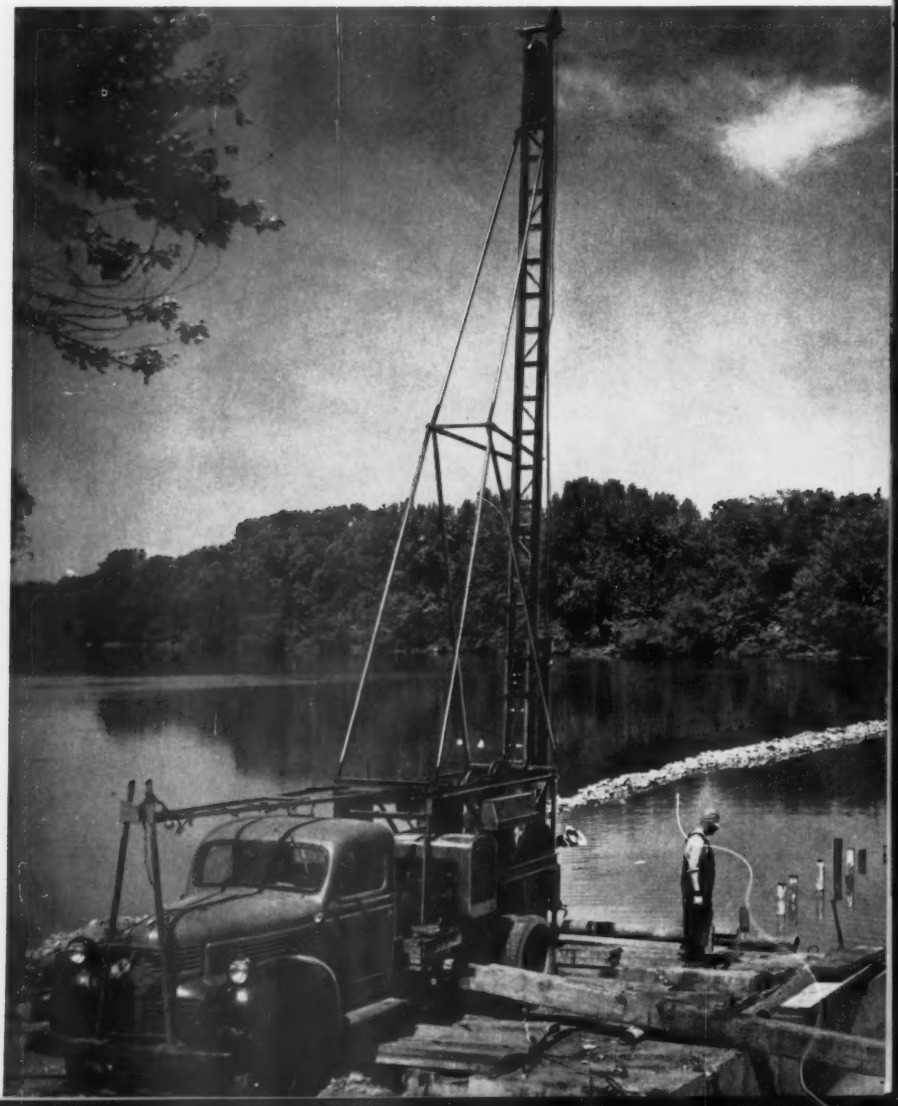
(Continued on page 50)

Penix starts tool string down the hole to make a few more feet before ending his work day. Except for setting up and moving from one job site to another, he operates the 60-L alone.

G. K. Anderson gave up well drilling three years ago because of ill health.

Now, his health restfully restored . . .

Andy Starts A Comeback



THREE years ago a young man of 37 experienced the first signs of nature's warnings to slow down. The constant pressures of contracting and supervising well work on a round-the-clock, six-day-a-week schedule within a 150-mile radius of Nashville, Tenn., had taken its toll. The man was fatigued mentally and physically.

But George K. (Andy) Anderson knew just what to do. He sold his five Bucyrus-Erie drills and 17 assorted pump and service trucks and retired from the well contracting business to manage his 1,400-acre plantation farm.

With his health now restfully restored, the veteran contractor has started a comeback.

"You might say my customers demanded I get back into well drilling," smiled the affable gentleman farmer-contractor. "Last year, for example, I referred 30 to 40 calls to other contractors. All of them came from old friends and customers who wanted me to do their well work. I couldn't see all that business getting away. So here I am, back in contracting."

A Bucyrus-Erie 22-W sinks blast holes into stream bed of Tennessee's Cumberland River. Blasting was done to construct trenches for a number of pipelines whose routes crossed the river.

Equipment Fleet

Anderson, who now lives in Cedar Hill, Tenn., firmly pointed out that he's going to take it much easier than in the Nashville days. He purchased a used Bucyrus-Erie 20-W in April of last year and, when the notes for this article were gathered, had on order a new Bucyrus-Erie 22-W and a 60-L. He intends eventually to operate the 60-L on a two-shift, round-the-clock basis. His drilling crews will be made up mostly of former employees. At present, he has a 1951 Ford utility truck and a 1956 Ford 1½-ton pipe hauler—a far cry from the 17-truck fleet he once kept on the move.

Anderson will operate in approximately the same old territory—middle Tennessee, northern Alabama and Mississippi and western Kentucky, an area within a 150-mile radius of his home.

Before his retirement in 1957, An-

derson figured 40% of his drilling was for irrigation and farm wells, 33% for municipal and industrial wells and 27% for suburban home wells. The usual diameter was 6 inches, although holes up to 26 inches were contracted. Average depths ran 200 feet, with some wells as shallow for several years, indicative of Anderson's tireless contracting efforts to keep his rigs busy.

Blast hole drilling got considerable play. On one of the most unusual of these jobs, Anderson had to mount a 22-W on a barge and drill twenty-two 800-ft. long rows of blast holes

As a blast is set off, tons of Cumberland River mud, rock and water jet skyward.

as 50 feet and some as deep as 1,400 feet. Approximately 70 were drilled 1,100 feet deep in middle Tennessee, each several hundred feet into Knox dolomite.

According to Anderson's records, each of his drills averaged 70 to 80 feet per 24-hour day in the primarily hard rock formations prevalent in his territory. The combined annual output for all five averaged 100,000 feet into hard rock underlying the Cumberland River stream bed.

The work was done for Tennessee Gas Transmission Co., which was laying gas-carrying pipelines whose routes carried across the river. The holes were needed to blast trenches out of the stream bed so the pipe could be lowered into them and securely anchored to the river bottom, preventing rushing water from vio-

Anderson's 20-W drills an 8-in. well for a nursery near Pleasant View, Tenn. The hole had to be cased with 125 feet of 6¼-in. casing. It bottomed in limestone.

lently rolling or heaving the pipe, which might result in breaks or leaks costly to repair.

Each trench had to be approximately four feet wide and six feet deep. Holes were put down on 6-ft. centers in each row. When the required depth was reached, 5-in. I.D. casing of sufficient length to stick above water level was pounded to refusal in the rock to keep the hole free of foreign matter. Half the crossing was shot at a time. When enough holes had been drilled to reach midstream, the drilling crew used the barge to load dynamite, pull pipe and string primacord from each charge to a main line which led to a discharge battery on shore that was used to set off the blasts. It took an estimated 20 days to drill the width of the river and blast.

Tough Drilling

On another river crossing of the Cumberland, Anderson sub-contracted the blast hole drilling from Traylor Brothers, a construction firm out of Evansville, Ind., which had to build a sewer line under the river for the City of Nashville. The trench had to

Dick and Frank Jones (no relation) bring up last bailer of filings as they prepare to quit work for the day. Both men are veterans with the Anderson firm.

be 15 feet wide and 10 feet deep. Most of the drilling was in solid limestone.

In recalling some of his more interesting well jobs, Anderson figured his deepest water well went down 1,550 feet. Drilled for a farm near Franklin, Tenn., it was started at 10 inches, reduced to 8 inches and finished at 6⅝ inches. It bottomed in Knox dolomite, produced 20 gpm and had a 300-ft. drawdown. The static level came within 80 feet of the surface.

The well took five weeks to complete, primarily because the crew ran into trouble at 1,000 feet. The dolomite proved tough to drill because it tended to pulverize. The cuttings wouldn't float, making the hole extremely hard to bail.

Anderson's deepest well, however, was a 2,000-ft. oil well at Richlew, Ky., which he put down with a Bucyrus-Erie 24-L. The 6⅝-in. diameter hole was drilled with a 10-in. bit to 200 feet and then reduced to 8 inches until reaching 560 feet. Shot with 120 quarts of nitroglycerin, the well produced 15 bbls/day. It was drilled for Guy Fisher, an independent producer.

Largest Flow

In drilling a 10-in. diameter, 350-ft. deep well for Jones-Thompkins Construction Co., Dallas, Tex., which was constructing a hydroelectric power dam across a river in northern Tennessee, Anderson logged the largest flow of his career—2,000 gpm with a 12-ft. drawdown. The water was required in mixing concrete for the dam. The contractors couldn't use the river water because its quality didn't meet the specifications set up for the concrete mix. The well took 10 days to complete. It was cased 40

to 50 feet through a sand and gravel formation. It bottomed in hard limestone.

In 1950, Anderson recalled, one of his 22-Ws put down 10 exploratory wells for the Huntsville (Ala.) city water department. Scattered over a large area, the 8-in. diameter, 200-ft. deep wells were drilled to locate the best area for drilling several large municipal wells. Each averaged 100 gpm under test but were not finished. Two years later Massey & Adams, Carlton, Ga., got the contract for the larger wells, much to the disappointment of the Anderson firm.

But "Andy" has had his lucky jobs, too. In 1948 he contracted work in Tishomingo County, northern Mississippi, to drill wells for millionaires' homes in an exclusive subdivision. On the first of 16 put down in the subdivision on that trip (a total of 30 were completed in later years), his new 22-W churned out 120 feet the first day. Andy had expected the hole to be tough and contracted it for $4 a foot. The hard limerock he thought he'd encounter proved to be only soapstone. The 6-in. diameter, 370-ft. deep well took only three days to complete. On most of these wells, the holes were cased from 100 to 150 feet. Occasionally, hard limestone formations were hit in which the rock was fractured and stood on end. A flat, round bit made short work of these obstacles, however.

"I've never left a string of tools

(Continued on page 51)

Anderson relaxes with his family. At left is Frances, 6, who holds one of Andy's prize foxhounds. Behind her is George, 16. That's Mrs. Anderson at the right.

Rapidayton leads the way to **BIGGER PUMP PROFITS!**

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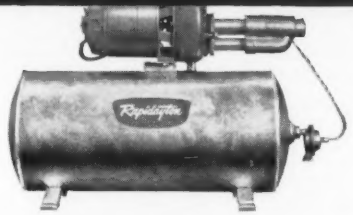
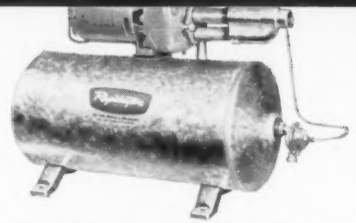
to dominate a booming market

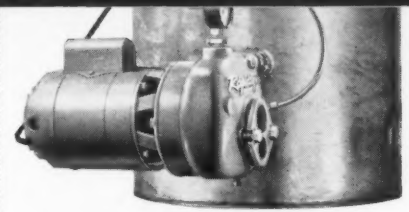
Nation-wide industry sales of convertible jet water systems are up approximately 35% over a year ago. Rapidayton wholesalers and dealers are riding high on the crest of this profit wave. The reasons are simple. Tait aggressively developed the market for two-jet-pumps-in-one: producing quality water systems that can be used, without additional pump parts, for either shallow or deep wells; systems that are easier to stock, easier to sell, and easier to install. And Rapidayton competitive prices are the result of advanced manufacturing methods and skills, not compromises in design and materials . . . Today there are *three* packaged convertible systems in the broad Rapidayton line. No matter what your competition, you can meet it—*and beat it*—with a Rapidayton quality convertible jet. Stock Rapidayton today.



Convertible JETSTAR* — *One* highly-competitive low-priced pump for any installation 0 to 80 ft. Real versatility and maximum profit from simplified inventory. Quality-built for outstanding performance and long life. ⅓ and ½ h.p. 56-frame complete motors with overload protection. Capacities to 750 g.p.h. Three tank types.



Convertible CHAMPION* — The Champion sets the standard for all modern convertibles. Every feature, every part is of the supreme high quality which has all but disappeared from most competing lines. Yet the Champion is priced among the lowest. For wells 0 to 80 ft. ⅓ and ½ h.p. capacitor motors. Capacities to 810 g.p.h. Three tanks.



Convertible TWIN CHAMPION*—Deluxe *two-stage* convertible, the ideal system when extra pressure is wanted from a shallow well, or both extra pressure and capacity from a deep well. Pumps full capacity at 40 lbs. pressure. For wells 0 to 150 ft. ½ to 1½ h.p. heavy-duty motors. Capacities to 1250 g.p.h., and pressures to 80 lbs.

Rapidayton

division **The Tait Manufacturing Company, Dayton 1, Ohio**

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*TRADEMARK

News of the month

B-E Consolidates Manufacturing Operations

Bucyrus-Erie Co. has transferred the manufacture of its line of water well and blast hole drills from Richmond, Ind., to company plants at Evansville, Ind., and South Milwaukee, Wis. The move was made to consolidate manufacturing operations and fully utilize excess production capacity at those plants.

All cable tool drills and the model 30 and 10-R rotary drills will now be turned out at Evansville. The Bucyrus-Erie model 40 and 50-R blast hole drills will be produced at South Milwaukee.

Drill engineering, sales and service operations will temporarily be maintained at Richmond. Plans are being made to lease or sell the manufacturing facilities there or to use them for subcontract work.

Fairbanks-Morse Opens New R and D Center

Separating its industrial research from manufacturing processes, Fairbanks, Morse & Co., Chicago, Ill., recently opened a new research and development center and laboratory at Beloit, Wis.

Robert W. Kerr, president of Fairbanks-Morse, said the center is a major part of a long-range planning program which aims to maintain Fair-

This is Fairbanks, Morse & Company's new research and development center and laboratory at Beloit, Wis. It is to become hub of the firm's research network.

banks-Morse's position in the field it serves.

"The company is placing stress on the development of modern products in its revitalized competitive drive. We clearly recognize the need for uncovering the great untapped resources of knowledge which can enhance our industrial stature," Kerr said.

Fairbanks-Morse's research budget of $1.5 million for 1959 is being increased to $2.5 million for 1960. The new research center will serve other companies with which Fairbanks-Morse is affiliated in the Fairbanks Whitney Corp.

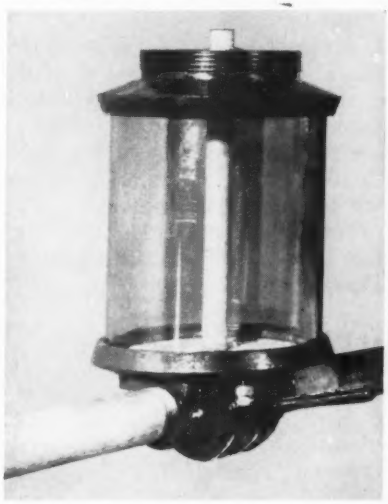
Kerr pointed out that the opening of the center means a change in the organization of research at Fairbanks-Morse. In the past, new product development has been carried out by members of development engineering staffs in the company's various factories. Research will now be the full-time job of scientists and engineers at the new center.

The Beloit center is to become the hub of a Fairbanks-Morse research network that includes hydraulic testing and experimentation facilities at the pump and hydraulic division headquarters in Kansas City, Kan., and a proposed thermo-electrical power research center in Albuquerque, N. M.

The R and D center has accommodations for a research staff of 30 to 50 scientists and engineers. There will be such supporting personnel as draftsmen and technicians. The center also has a technical library. Usable floor space totals 20,000 square feet. The working area is devoted to research and development in the electrical, electronics, mechanical and hydraulic fields and will include a chemical and metallurgical laboratory and a small model shop.

When writing advertisers, please say you saw it in *THE DRILLER*

Larger Phosphate Feeder Designed by Clayton Mark



Clayton Mark's new phosphate feeder.

Greater convenience for water well owners in controlling water-borne mineral impurities which cause red water, lime scale and corrosion is provided in the design of a new and larger phosphate feeder unit. The product was announced recently by Clayton Mark & Co., Evanston, Ill.

With a five-pound crystal capacity, two-thirds larger than previous models, the new Mark feeder will operate automatically for a longer period than earlier feeders.

Faster refilling with poly-phosphate

crystals is made possible by the unit's large diameter top opening, which permits householders to pour crystals directly into the feeder from a can without using a funnel.

Clayton Mark engineers have designed a dual-purpose turn valve control for the new unit. A turn of its lever-type handle shuts off water line pressure into the feeder and at the same time permits water to bypass it. The valve replaces two valves required by earlier feeders.

An amber-tinted, plexiglas cylinder affords the owner a full view of the crystal content to see when refilling is needed. The new Mark feeder is equipped with a brass strainer and a simple petcock to provide easy draining of the water during recharging.

For further information write Clayton Mark & Co., Dept. TD, 1900 Dempster St., Evanston, Ill.

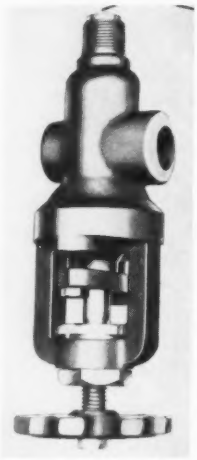
NWWA Plans Closer Ties With State Chapters

National Water Well Association plans for 1960 include a membership drive and approval of a plan for individual state chapters and independent associations to help finance cooperative projects.

NWWA committees and state and independent chapters are submitting recommendations on projects to further the interests of the industry. Areas of association activity already agreed upon are public education, preparation of handbooks on safety and insurance for contractors, educational films and establishment of a research library for the water well industry.

Another recent association decision gives state chapters, and independent groups where there are no national-affiliated chapters, representation on the NWWA board of directors—one director for every 50 paid members and a maximum of four directors from each group. Under the new arrangement, all NWWA members will have a voice in setting association policy through elected representatives.

Freeze-Proof Drain Valve Announced by Jerguson



An improved self-draining valve utilizing a special type bolted bonnet which guarantees perfect alignment and "freeze-proof" action under all conditions has been announced by Jerguson Gage & Valve Co., Burlington, Mass.

The new Jerguson No. 23 Drain and Sampling Valve is ideal for installation where it is desirable to have the valve seat inside the wall of the pipe or vessel. This prevents liquid from remaining in the area between the liquid container and the valve seat when the valve is shut, claims the company. The No. 23 is completely self-draining. The valve stem seats on the outside of the valve body so that there is no chance of liquid remaining in the nipple or valve.

The special bolted bonnet uses a forged yoke which supports the stem away from the valve body and a separate forged gland-follower which bears directly on the packing, entirely

independent of the yoke. This construction places the threaded portion of the stem outside of the valve body where it is not affected by the temperature or nature of the liquid being handled. The unique design allows the valve stem to work freely at all times and prevents freezing.

A catalog, Data Unit No. 355, gives features, construction details, sizes, ratings and materials of the valve.

For a copy of this catalog write Jerguson Gage & Valve Co., Dept. TD, 80 Adams St., Burlington, Mass.

Booklet Describes Deming's Fianite

The Deming Co., Salem, Ohio, has prepared a colorful, easy-to-read 10-page booklet about the company's new thermosetting material called Fianite, which is said to make better and longer lasting pump parts.

The booklet uses interesting and graphically illustrated caricature drawings. They point up the superiority of Fianite over thermosplastic materials.

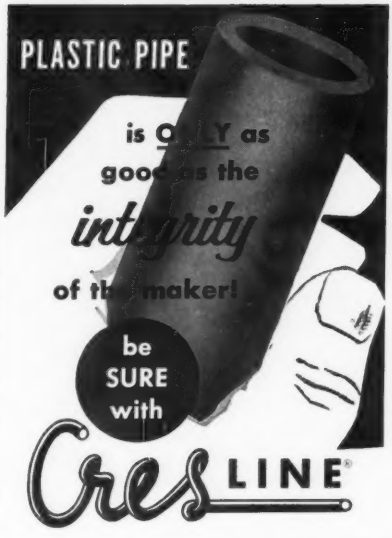
Easy-to-read charts show comparative strengths and physical properties of Fianite with other plastics.

Write to The Deming Co., Dept. TD, Salem, Ohio, for a free copy of the booklet. It is entitled "Presenting a Greater Performer."

Anti-Rust Aerosol Protects Tools, Parts, Instruments

Improved protection from rust and corrosion of metal parts is reported for Sprayon No. 604 anti-rust spray, according to the maker, Industrial Supply Div., Sprayon Products, Inc., Cleveland, Ohio. The anti-rust aerosol

(Continued on page 42)



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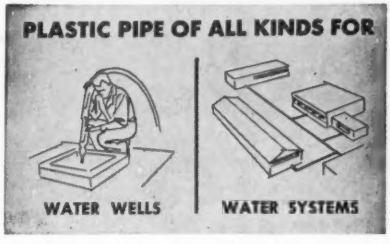
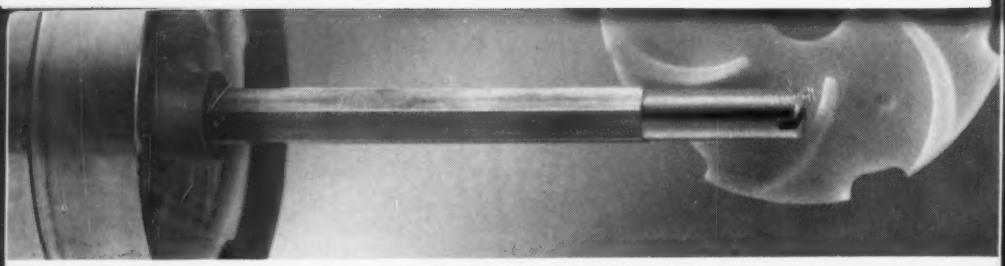
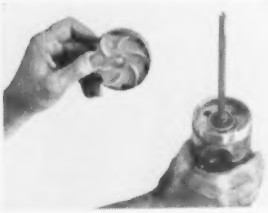




NOW... A 6-SIDED SHAFT REPLACES IMPELLER KEYS!

You can forget about impeller keys—a critical item inside most submersibles—when you install Goulds Silent - Flow. The Hex - a - Drive shaft does away with the need for impeller keys . . . and the serious trouble they often cause.



This unique, stainless steel, six-sided shaft stays permanently aligned. It gives the impeller a positive drive which could not be achieved by means of keys.

So, the pump lasts longer. In one test, Goulds Silent-Flow ran for 170,000 cycles without showing a sign of wear, while subs tested against it quit at 100,000 cycles. Other tests showed similar results.

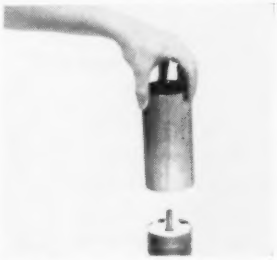
BYRITE parts live longer, too. Impellers, guide vanes, and cover plates of BYRITE—a special new plastic—prolong pump life. BYRITE parts are highly corrosion- and abrasion-resistant. Their light weight makes motor starts easier. Its stability in water means BYRITE parts keep their size and shape permanently—keeping pump efficiency at its peak.

BYRITE surfaces provide smooth, efficient water passages that minerals and algae don't stick to.

New low cost. Miracle-tough BYRITE lowers the cost of the submersible *without lowering quality*. This means the Goulds Silent-Flow can provide a better water service for less money—a fact that will help you boost your submersible pump sales.

New drop cable makes installation easier. Three leads in a single cable jacket simplify installation of the Silent-Flow. You just plug it in—no splice to make, no chance of wrong connection at the pump end. All controls stay at the surface for easy accessibility.

Easy to service. Should you need to look inside this pump sometime after it's installed, it's easy! The Silent-Flow comes apart easily. Field service requires no special tools. You can take it apart yourself to clean out debris.



No need to send back to factory. No freight charges. No need for you to stock replacement units. The Silent-Flow sub is as easy to service as a jet pump!

Jet mounted on 12-gallon tank. Compact Shallow-Flow and Prime-Flow jets feature positive self-priming and many other Goulds quality features . . . all at competitive prices. Available on 12-, 30-, or 42-gal. tank or as basic pumps for use with separate tank.

Get information about Goulds Silent-Flow and the entire Goulds line. See how your Goulds distributor can help you build a more profitable business with a non-recourse consumer finance selling plan. Just write to Goulds Pumps, Inc., Dept. DR-20, Seneca Falls, N.Y.

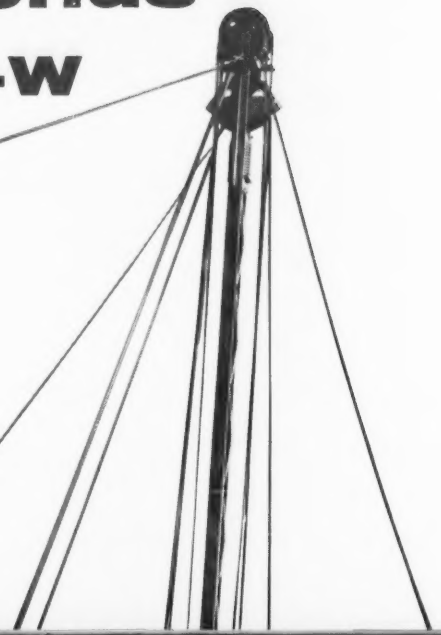
GOULDS PUMPS

"Footage Frolics"
Roesler
"SOUNDS LIKE WE BOTTOMED."
"IT'S UNCANNY, JEPSON - YOU'RE A GENIUS AT FINDING WATER!"
"I HEAR YOU DRILLERS ARE INTERESTED IN CAT HEADS."
"WHERE YOU WANT THAT WELL DRILLED?"
"YESSIR, I DRILLED WELLS FOR NIGH ONTO FORTY YEARS."
"BETTER CALL IN A DRILLER. WATER'S PRETTY DEEP HERE."
DENTIST
"SO! HERE'S THE 'LEAK' IN OUR WATER SYSTEM!"

You get a Double-Dollar Bonus with a low-cost 22-W

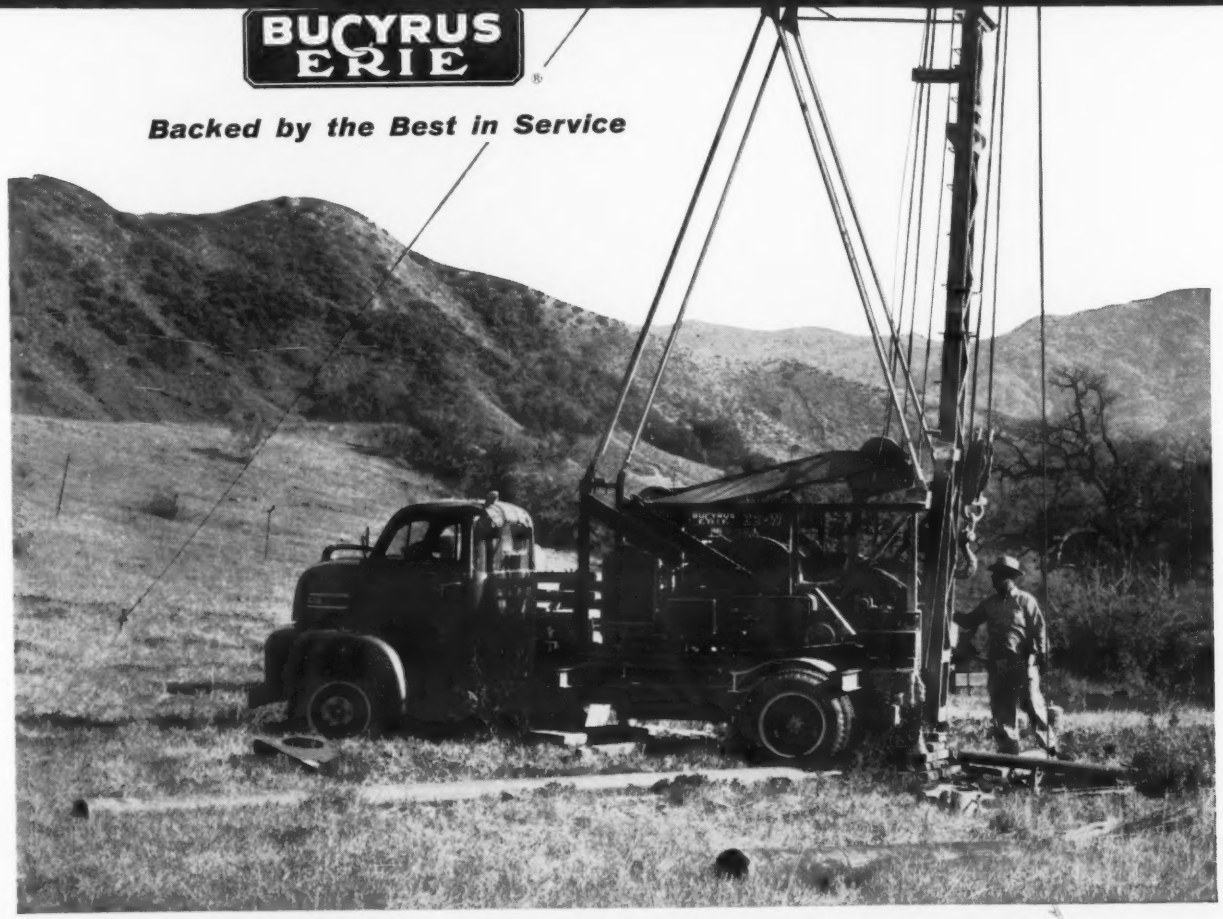
Extra Footage Per Dollar any way you figure it. Low original cost of the 22-W gives you a big advantage right from the start. Unmatched durability holds operating costs low. Better yet, the 22-W has big capacity. It swings 1,250 pounds of tools at 1,000 feet. Further, with the best distributor setup in the industry, you can count on overnight service wherever you are.

Two out of three drillers prefer Bucyrus-Erie water well drills over all others. Find out more about the drills that outwork, outlast and outsell all others *by far*. See your Bucyrus-Erie distributor for the size and type to fit your needs. Write Dept. 1W59, Bucyrus-Erie Company, Drill Division, Richmond, Indiana, for complete information.



BUCYRUS ERIE®

Backed by the Best in Service



News . . .

(Continued from page 37)

is part of Sprayon's line of 47 maintenance and production aids in self-spraying containers.

Applied as a fine mist, No. 604 penetrates into joints and crevices, displacing moisture and forming a thin waxy film that clings tightly. It can be quickly removed by a light solvent. Sprayon No. 604 was developed to protect machined parts between operations or in storage.

A free handbook of Sprayon's "Aerosols for Industry" is available from Industrial Supply Div., Sprayon Products, Inc., Dept. TD, 2075 East 65th St., Cleveland, Ohio.

Red Jacket Submerga Pumps Redesigned

Three series of Red Jacket Submerga pumps have been completely re-engineered so they have greater capacity, more efficiency and require less maintenance, according to the manufacturer. The new series of pumps are a redesign of Red Jacket's previous 7, 10 and 18 gpm series submergible pumps.

One of the most important new features of these series is a stainless steel six-spline shaft, say officials of the firm. This shaft passes through an extra thick hub in the impeller to make a strong rigid connection that will not break out. Improved stage design with larger impellers provide greater capacity with fewer stages. More powerfully rated motors improve efficiency. The 7 gpm series incorporates the Dylan diffuser which was introduced in previous models. A special two-piece, shrink-fitted coupling makes a trouble-free connection between the motor shaft and spline shaft of the pump. The new pumps have an all-brass shell and a brass cable guard, held to the pump by stainless steel straps. A built-in check valve reduces the number of fittings required for installation.

These new models join a complete line of Submerga pumps that include 45, 70 and 130 gpm series. All are completely described in a 90-page general catalog recently issued by Red Jacket. It illustrates the pumps with cutaway art and contains curves and charts on their performance.

The catalog is in loose-leaf style, making it easy to keep up to date on changes and/or additions. All pages are enclosed in a sturdy cover. Copies of the catalog are available to dealers and distributors by writing directly to Red Jacket Mfg. Co., Dept. TD, 1051 So. Rolff St., Davenport, Iowa.

Warning Device Reduces Collision Hazard

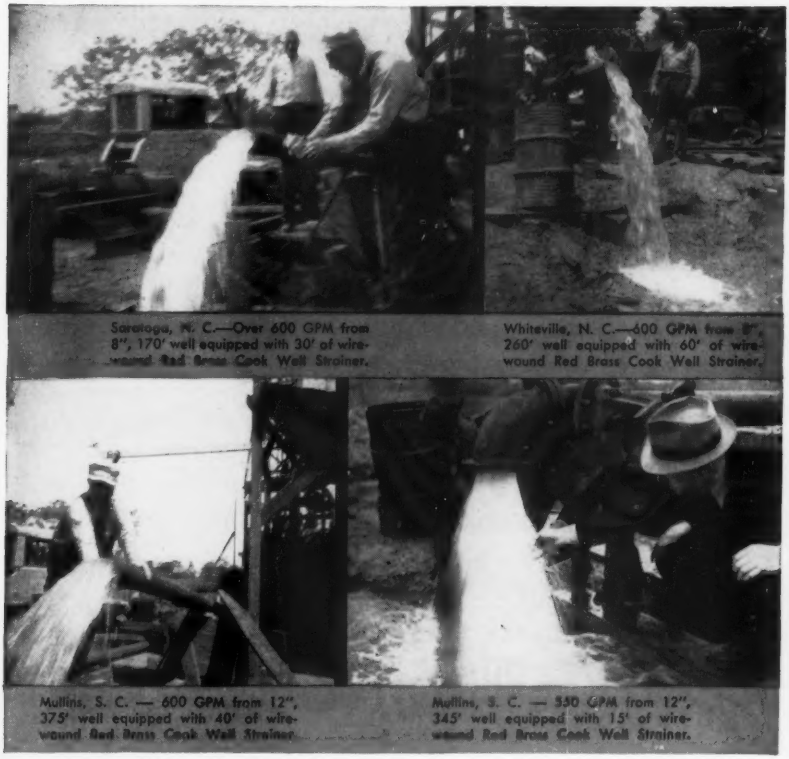
A warning device for disabled autos and trucks, designed to reduce the hazard of rear-end collisions, has been announced by Safety Signal Sales Co., Waban, Mass. Called the Safety Signal Stick, the device is packaged in a tube with four metal legs that drop from the tube to form a stand. The stick may also be used as a hand signal to flag down on-coming traffic.

The stick looks like a red-and-white

(Continued on page 44)

WANT PROOF OF SUPERIOR PERFORMANCE

FROM COOK WELL STRAINERS?

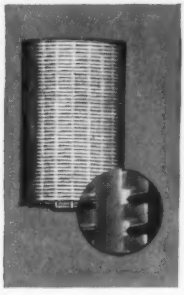


Saratoga, N. C.—Over 600 GPM from 8", 170' well equipped with 30' of wire-wound Red Brass Cook Well Strainer.

Whiteville, N. C.—600 GPM from 8", 260' well equipped with 60' of wire-wound Red Brass Cook Well Strainer.

Mullins, S. C. — 600 GPM from 12", 375' well equipped with 40' of wire-wound Red Brass Cook Well Strainer.

Mullins, S. C. — 550 GPM from 12", 345' well equipped with 15' of wire-wound Red Brass Cook Well Strainer.



Talk to Mr. C. C. Hildebrand, deep well contractor of Wake Forest, North Carolina. He drilled five highly successful wells for three different towns . . . each well being equipped with a Cook wire-wound Red Brass Strainer.

It's Cook's exclusive V-shaped, self-cleaning slot that guarantees the fast, free flow of clean water from these Carolina wells. Cook's precision-made slot, wider inside than outside, prevents clogging and assures maximum GPM. Also, it contributes to the good natural development of the water-bearing formation, adding years to the productive life of the well.

Cook strainers are available as wire-wound or brass tube types, with slot sizes from .006" to .25" in all standard diameters. Choice of metals includes Red Brass, American Everdur Bronze, Armco Iron or Stainless Steel. 8 to 24 hour delivery in most cases. Call HUmbolt 1-8800 or write direct for catalog.

COOK WELL STRAINER CO.

6330 Glenway, Cincinnati 11, Ohio

WORLD'S LEADING NAME IN WELL STRAINERS

News . . .

(Continued from page 42)

striped candy cane. Its finish reflects automobile headlights as far away as 400 feet. The device weighs approximately one pound and can withstand winds up to 55 m.p.h.

For further information write Safety Signal Sales Co., Dept. TD, Waban, Mass.

New Lincoln 180-Amp Welder Is Announced

"Placing the convenience of immediate arc welding repair in every maintenance area" is the purpose of a new 180-amp welder, according to the manufacturer, Lincoln Electric Co., Cleveland, Ohio. The company states that the cost of the new welder makes it practical to do on-the-spot welding, eliminating the travel and waiting time of outside welding jobs.

Designed with the "occasional" welder in mind, the dial type control of the new Lincoln welder provides easy positive setting of output over a wide amperage range. Electrodes from the smallest to 3/16-in. size can be used to weld materials from 20 gauge to ½-in. or thicker plate.

The new design gives stable arc chacteristics and will weld mild steel, low alloy steel and 18-8 type stainless steel, Lincoln Electric officials say. Operation on 220-volt single phase power supply combined with compact, light-weight construction permits easy movement of the welder.

Other features of the new design include a voltage input adjustment,

(Continued on page 46)

Strataflo

ALL-POSITION CHECK VALVE

SENSITIVE • RUGGED

The Strataflo Check Valve is designed for long, trouble-free service. Silicone-treated rubber poppet is tough and flexible, resists sticking and leaking. Noiseless, sensitive operation. Works in any position.

Body is one-piece red brass. Made in seven sizes. 200 lbs. pressure. Also available with metal poppet for steam, hot or cold water, oil, gas and compounds. Write for Bulletin 104.

Order from your jobber.

STRATAFLO PRODUCTS, INC.
FORT WAYNE, INDIANA

NEW DEMING Submersible PUMPS

The New Deming "F" Series of Submersible pumps is modern in design, accurately machined and tested to give you the best performance. "Fianite" parts assure smoothest waterways. The motor is furnished with 3-wire cable and lightning surge arrester.

For complete details use the coupon below.

The DEMING Co.

215 BROADWAY • SALEM, OHIO

Send me the new "F" series Submersible brochure.

NAME _____

COMPANY _____

ADDRESS _____

CITY _____ ZONE ___ STATE _____

OUR 80th YEAR — PROGRESS WITH EXPERIENCE

News . . .

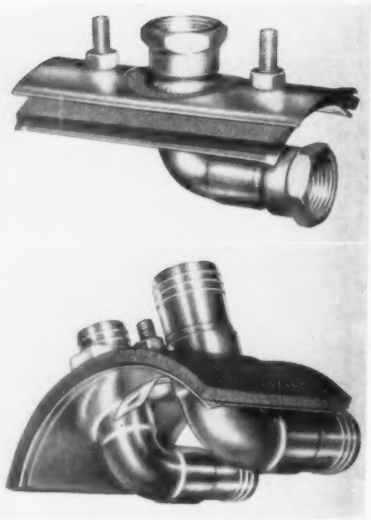
(Continued from page 44)

permanent cable connections and weatherproofed construction. Price of the new welder includes cables, headshield and electrode holder.

For further information write the Lincoln Electric Co., Dept. TD, Cleveland 17, Ohio.

J. G. Fischer Marketing New Water Well Seal

A new water well seal, announced by J. G. Fischer, Inc., East Aurora, N.Y., is designed to protect against contaminated water supplies from drainage, insects and other foreign material entering the well casing. It has been tested and approved by health departments throughout the country. Made of brass and copper with a neoprene gasket to provide trouble-free service, it is intended for below-ground, side saddle entry into the well casing. It is adjustable so that it can be adapted to steel, metal or tile casings. The resilient neoprene gasket and plate are designed to assure a tight seal when drawn up against the casing interior.



Fischer's single and double pipe model well seals.

The Fischer well seal is available in a variety of sizes to fit 4 to 12-in. casings and is designed for use with plastic or iron pipe. Single or double pipe models and special mold designed for use with submersible pump units are available.

For further information write J. G. Fischer, Inc., Dept. TD, 99 Castle Hill Rd., East Aurora, N. Y.

"Our submersible pump development department."

New 1960 Catalog Is Tait's Largest

The 1960 Tait Mfg. Co. catalog, the largest in the firm's history, is now available. It features a loose-leaf cover with tabs for easy reference and includes product sections on submersible, jet and reciprocating water sys-

tems, submersibles and upright cellar drainers and water softeners.

Sections are also devoted to the history of the company, pump selection and installation data and sales aids. The entire contents of the catalog are available in 2 and 4-page sections suitable for mailing by wholesalers and their dealers. Each section has space for imprinting.

For further information write The Tait Mfg. Co., Dept. TD, 500 Webster St., Dayton, Ohio.

BJ Moves Regional Office to Atlanta

Byron Jackson Pumps, Inc., has moved its southeastern regional headquarters from Greenville, S.C., to Atlanta, Ga.

M. E. Youngs continues as southeastern regional manager. The new address is Room 202, 3131 Piedmont Rd., Atlanta 5, Ga.

Bals Appointed General Manager at Aurora Pump

The appointment of John M. Bals as general manager of its Aurora Pump Div. has been announced by The New York Air Brake Co. Bals succeeds Frank S. Main, who relinquished his responsibilities because of ill health.

Bals has been associated with Aurora Pump for the past 15 years. He has served as export manager, New York branch manager and division sales manager. He has contributed effectively to the growth of the organization and its continued development of turbine-type and centrifugal pumps used by industry, municipalities, ships, farms and homes. Main will continue to serve the company in an advisory capacity.

When writing advertisers,

please say you

saw it in

THE DRILLER

Thank You

VON RUDEN **Hydra-Flex**
PORTABLE DERRICK

Hydra-Flex Hydraulic Motor drives heavy-duty, clutch-equipped 3 ton winch with hydraulic-smooth engagement and release. Pull varies with boom angle . . . ton and a half at 60 degree boom elevation. Boom easily raised or lowered for inside tower or inside building work, hydraulically handled for transport or any boom position.

Write for complete information

Distributor Inquiries Invited

HYDRA-FLEX, INC. CLAREMONT 1, MINNESOTA

Personnel Changes Told By McDonald Company

Alex Watt, manager of the Dubuque (Iowa) branch of the A. Y. McDonald Manufacturing Co., retired at the end of 1959 after 36 years with

(Continued on page 50)

BITS *from the wit sharpener*

The young woman in the upper berth of the pullman car was thoroughly chilled by a cold draft. She attracted the attention of the man in the lower berth and asked, "Would you mind getting me a blanket? I'm awfully cold and sure could use something to keep me warm."

"Are you married?" asked the man.

"Oh no, I'm not married," the young lady replied.

"How would you like to play like you are married?" he asked.

"Oh, I think that would be fun."

"Good!" said the man. "Then get up and get your own blanket."

"You've got a pretty place, Frank," said the departing guest. "But it looks a bit bare yet."

"Oh," explained Frank, "it's because the trees are rather young. I hope they'll have grown to a good size before you come again."

A member of the Harvard University faculty, noted for his tact, was awakened at 4 a.m. by his telephone. "Your dog is barking and keeping me awake," said an irate woman's voice.

The professor thanked her and hung up. The following morning at four the woman's telephone rang. "Madam," said the professor, "I have no dog."

"What exactly do you mean," asked the personnel manager, "when you say you left your last job because of illness?"

"Well, it was kind of a mutual illness," said the applicant. "I got sick of them and they got sick of me."

On his trip to the city, the old hillbilly was fascinated by elevators. As he stood in front of one, an old lady, bent and shriveled, entered, a light flashed and in an instant she was gone. Moments later the door opened and out stepped an attractive young woman. Walking away sadly the hillbilly muttered, "I shoulda brung Maggie along."

"What I'm worried about," said Snazz Snitzel, "is how I'm going to get my shirt over my wings when I die."

"You needn't fret about that," said Mrs. Snitzel. "What you'd better worry about is how you'll get your pants on over your tail."

He was sitting beside the bed of his sick wife. They had been married for 15 years and now that his wife was seriously ill it seemed that the union would soon be ended.

The ailing wife looked up at her husband and said: "Oliver, I want you to promise me that if I should die and you remarry, please do not let your new wife wear my clothes."

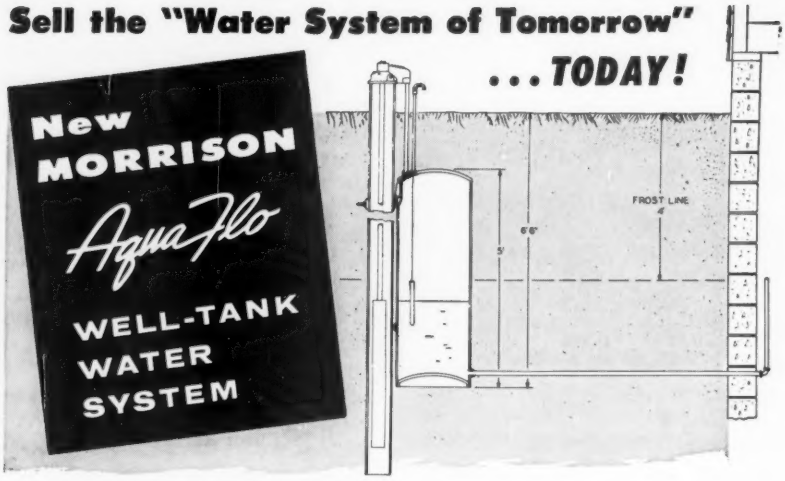
The husband replied: "I promise. Your clothes wouldn't fit Alice anyway."

" . . . and so," said the young man at the bar, "the engagement was off. She wouldn't marry me."

"I'll bet she would have married you if you had told her about your rich uncle," replied his drinking companion.

"That was the trouble—I did. Now she's my aunt."

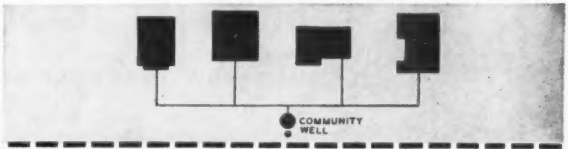
Sell the "Water System of Tomorrow" ...TODAY!



FIRST All-at-the Well System!

Sell the "nearest thing to central water convenience" for faster profits, enthusiastic customers — with new MORRISON Aqua-Flo WELL-TANK SYSTEMS! New exclusive Well Head Unit permits burying tank *right at the well.* Avoids pressure tank nuisance in the home, avoids pump house or pit, lost space, extra adapters, conduits, extra welding. Well Head Unit fits well casing without welding or cutting, includes built-in check valve, snifter-type air charger, junction box, tank intake connector, thermostatic heater and ports for ventilation and service. You save installation time and labor, do a better job faster.

Check ALL the advantages of the new Aqua-Flo WELL-TANK SYSTEM NOW. Fits well casings from 4″ to 7″ *without adjustment.* Tank sizes, 60, 120 and 265 gallons. Use with submersible pumps. Meets all sanitation codes. Provides a "main" type water system often at savings of hundreds of dollars for your customer.



New Aqua-Flo Well-Tank System simplifies water supply to other buildings.

Be FIRST in your town with the *latest!* Check the Coupon for the whole story.

THE *Morrison* COMPANY

Dept. D, 125 W. Melvina St., Milwaukee 12, Wis.

Quick! Tell us more about the advantages of the new MORRISON Aqua-Flo Well-Tank "Water System of the future."

Name .....

Address .....

City ..... **State** .....

Attention of .....

News . . .

(Continued from page 50)

the company. New manager of the Dubuque branch is J. M. McDonald III, a great-great-grandson of the company's founder.

Also retiring from the firm was Leo Norton, manager of the Omaha (Neb.) branch, who completed 37 years with the firm. The Omaha post was filled by L. R. Richards.

Penix . . .

(Continued from page 25)

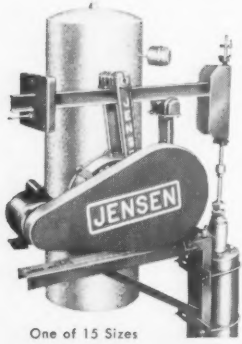
mounted machines and take them practically anywhere in the 100-mile radius around Corona where Penix drills. Attending the machines is a Lincoln welder and a complete oxy-acetylene outfit.

It should not be inferred, from the ease with which he operates his two rigs, that Penix has been completely free of fishing trouble. Quite the contrary. Some of the jobs have been interesting and so difficult that he has had to go to the Iverson Supply Co. office at Artesia, N.M., to get special fishing tools. Twice 8-in. bits were lost and at least one was not recovered.

One of the toughest recent fishing jobs was for a bailer. It was finally recovered with a latch jack that picked up the cable, still attached to the bailer. A set of jars also was recovered recently with the aid of a blacksmith who shaped a piece of casing in the form of a basket. This was dropped down over the end of the jars, tapped in place solidly and the whole thing pulled back out.

Well drilling has given Penix something to do in his spare time, and

COMPARE and be CONVINCED it's the



One of 15 Sizes

CYL. I.D.	DROP PIPE SIZE	GALS. PER HOUR	¼ H.P. MOTOR 20-40 PRESS.	¼ H.P. MOTOR OPEN DISC.	⅓ H.P. MOTOR 20-40 PRESS.	⅓ H.P. MOTOR OPEN DISC.
1 ⅜"	2"	105	365'	395'		
1 ⅞"	2"	200	150'	240'	210'	300'
2 ⅜"	2½"	323	60'	150'	110'	200'
2 ⅞"	3"	473	10'	115'	45'	135'

BIG BUY! JENSEN'S 13-W-7

We invite you to check these production figures on the JENSEN 13-W-7 with other comparable makes. It uses only a 1/4 H.P. or 1/3 H.P. motor, with forty 7" strokes per minute — *delivers more water with less power!*

OR — check the Model 13-W-9 with a 9" stroke. Using the same cylinder it delivers about 30% more water than the 13-W-7 but from shallower wells.

Write for attractive dealer discounts and catalog showing all 15 sizes.

JENSEN WATER SYSTEMS

Made by JENSEN BROS. MFG. CO., INC., Coffeyville, Kansas

Sure wish that guy would make up his mind.

he uses it strictly as a hobby, just as he originally intended. He's not dependent on it for a living because his ranch and retirement income from the railroad have more than taken care of that worry. His drilling is designed to keep him occupied for a few productive hours each day—nothing more. He doesn't work hard, nor does he push to finish one job fast and start another. If one or both of his machines is idle, it doesn't matter because the rigs are paid for and there will come a time when they are needed.

Spudding in, he usually gets his son Max to come over from the ranch and help set up the machine, put on tools and do other things necessary to get underway. After that he operates alone.

One of his toughest problems is bit sharpening. There was a time when Penix forged his bits by hand. In late years, however, that work is far too difficult, so he's welding with Stoody and Abrasoweld rod. While this has been fairly successful, some hard rock formations are tough on bits, and forged bits would probably do a better job.

Sandstone, gravel, boulders, sand, malapai and limestone—all have been drilled by this retired man. On one recent hole he was down 560 feet when he ran into hard blue granite. Most of the drilling is easier than that, either in standstone, solidified sandstone or softer rock formations.

The best water bearing zones seem to be found directly under layers of limestone, where the water has seeped from ages past. In almost all cases, this is excellent, clean drinking water. Most wells are cased with perforations through the water-bearing zones and then are developed by multiple-stage pumps.

To Penix it doesn't matter particularly whether he continues drilling for a long time. As he gets older, he hopes, of course, to continue drilling at least a little each day. He feels it makes his retirement more enjoyable and more constructive.

Anderson . . .

(Continued from page 31)

in a hole," Anderson confided over a glass of iced lemonade, "although it might have paid me to leave some. I ran into a real tough fishing problem, for example, in getting pipe out of a government test project hole near Franklin."

He explained that the 1,285-ft. deep hole was started at a 10-in diameter size. It was continued with 8-in. tools and then reamed. The hole was cased with 1,200 feet of 6¼-in. pipe. Upon completing the test, the pipe was pulled, but it broke and 400 feet was left at the bottom.

"We went down with a collar

(Continued on page 54)

BARGAIN *counter*

All advertising in this section is payable in advance. Enclose your check or money order with copy. Rate: $1.00 per line. Minimum charge $4.00. No discounts; no commissions. Count your own copy to avoid delay. The average line contains 28 characters (20 characters if all capital letters are used). Count spaces and punctuation as one character each. Allow 10 characters for box number if blind advertisement is desired. Closing date —5th of preceding month. Example—April issue closes March 5th. Be sure to address separate inquiries to each advertiser by using the correct box numbers. Mail Box inquiries care of THE DRILLER, South Milwaukee, Wisconsin.

DRILLS FOR SALE

1 Model #37 Sullivan rotary, serial #4525, 35' mast, 4 x 5 Gardner Denver pump, retractable table, in a very good condition. This is mounted on a four-wheel drive Chevrolet truck which is also in good condition and ready to be driven at once. This is to be sold at a bargain price of $4,000 FOB location, which is Central Florida. Contact us: Earl Van-Every, Inc., 2120 No. Rio Grande St., Orlando, Fla.

1 — 22-W Bucyrus-Erie drill with casing reel and power derrick hoist. Mounted on 3-ton Reo truck with dual rear wheels. Has 500 ft. of ¾" drill cable, 500 ft. ⅝" sand line and casing line with 6" tools. Joint size, 2 x 3—7 API.

1—24-W Bucyrus-Erie drilling machine with 40 ft. derrick. Casing reel—less power derrick hoist — with 500 ft. drilling cable and sand line, less drilling tools.

1 — #55 Speed Star drilling machine. Serial #10774. Mounted on a 2-ton Chevrolet truck with dual rear tires. Machine fitted with catheads, casing reel, power derrick hoist, drilling & sand line cables and casing line, less drilling tools. Wilson Pipe & Supply Co., Inc., 13400 W. Carman Ave., Butler, Wis., Phone: SUnset 1-8810.

1—1954 model 60-L Bucyrus-Erie drill. Machine trailer mounted. Equipped with a 326 Buda engine, tool crane, casing strut, casing line and block, guy lines and turnbuckles.

1—Model 42 Cyclone drill. Machine equipped with a telescoping derrick and Continental engine. Rebushed and repainted.

1 — Model 71 Star drill mounted on International truck. Machine completely rebuilt and repainted.

1—Model 72 Star drill on PWD truck.

2 — Model 21-W Bucyrus-Erie drills. Both have been completely rebuilt and repainted. One equipped with a Continental engine and the other with a 4-cylinder Wisconsin air-cooled engine. No truck with either.

1 — Model 21-W Bucyrus-Erie drill. Complete with lines, tools and truck.

1 — Model 21-W Bucyrus-Erie drill with LeRoi engine. No tools or truck.

1 — 1957 Bucyrus-Erie 1-W drill. Complete with all rotary attachments. Mounted on 1952 Dodge truck.

1—1948 Model 36-L Bucyrus-Erie drill. Tandem mounted. Equipped with LO-525 Buda engine and tool crane. Machine rebuilt and repainted.

1—1955 Model 20-W drill mounted on 1951 Chevrolet truck. Machine equipped with full starting.

1—1957 Model 28-L Bucyrus-Erie drill. Equipped with 6 MZA Waukesha engine, tool crane, casing block, casing line, guy lines, rubber sheaves and blower. Machine is trailer mounted. Buckeye Supply Co., Box 1231, Zanesville, Ohio.

1500 Failing long mast, kelly. Tandem axle Ford.

Franks KC, mounted 54 Ford.

Franks 1000, 400' drill pipe, $3,750.

Used swivels, kellys, drill pipe, rotary percussion tools, $1,500 and less. Fred Butler, Box 481, Pueblo, Colo.

Model 50 Keystone mounted on a 1949 Chevrolet truck. Drill complete with tools and lines for drilling 6" diameter wells. Price $2,000. Marian C. Taylor, Riverview Ave., Lincoln Park, N.J. Phone: OX 6-1540.

1000 Mayhew rotary drill on Int. 4-wheel drive truck. 5x6 Wheatley pump, 225' of drill rod, 15 bits, $5,800. R. Black, R. D. #3, Kitt, Pa.

1—Model 53 Keystone. New clutches. Mounted on a good GMC. Ready to go. $2,800.

1—33-W, a good hole maker. Mounted on a good GMC. $2,500.

1—Home made rig for 4". Can't beat the drilling action. Trailer mounted. Pulled with a 1-ton Dodge flat truck. $1,000.

1—Pippin backhoe with Wagner end loader. Mounted on a Furgason 35 tractor. $3,000. Drilling tools from 4" to 10", reasonable. D. R. Crittendon Drilling & Supply Co. Phone: Union, Ill., 3101.

1—1956 Model 55 Speedstar, combination spudder and rotary, 240 feet of 2½" drill pipe, Michigan centrifugal pump. Continental engine on the rotary attachment. Rig mounted on a 1950 F-5 Ford. Priced to sell. Ernest Tate, 3836 War Memorial Dr. Phone: Peoria, Ill., 2-9077 or the R. R. Long Co., Jacksonville, Ill. Phone: CHestnut 5-2613.

1 — 1957 Model 20-W. A clean rig with a string of tools, 2x3, and lines.

1—#10 Ideco drilling machine mounted on a good Chevrolet truck. Lines but no tools. R. R. Long Co., Jacksonville, Ill. Phone: CHestnut 5-2613.

1—1954 Model 60-L. No tools or lines but does have a casing tackle strut, trailer mount. Price, $9,000. S. B. Schenk, Highland, Ill., or the R. R. Long Co., Jacksonville, Ill.

1—1946 Model 22-W with a string of tools and lines, $3,500.

1—1948 Model 22-W. No lines or tools, $3,500. Contact the R. R. Long Co., Jacksonville, Ill., or the Taber Well Co., Eureka, Mo.

1 — 22-W, #113169, with Hercules engine, 40' telescopic derrick, fan blower, casing reel, spooling device, complete starter, rubber sheaves. Mounted on 1948 Mack Truck.

1 — 20-W, #113457, with Hercules engine, 36' telescopic derrick, fan blower, casing reel, spooling device, complete starter. Mounted on 1953 Chevrolet truck.

1—1-W, #114061, complete starter, piston pump. Mounted on 1951 Dodge truck.

1—55 Speed Star, #10762, with International engine, 36' telescopic derrick, casing reel, complete starter, tool guide, cathead. Mounted on 1950 Chevrolet truck. Hickory Well Supply Co., Inc., P.O. Box 602, Hickory, N.C.

DRILLS FOR SALE

1—1952 Model 24-L. Practically new engine and jackshaft, swabbing gear, propane equipment, recently cleaned and painted, fairly new sand line, some drill line. Price, $5,750. Trailer mount, casing tackle strut. John Comer, Taylorville, Ill., or the R. R. Long Co., Jacksonville, Ill.

1—22-W, 1956 model, with new Allis-Chalmers diesel power unit.

1—22-W, 1955 model, with Hercules power unit. Both machines mounted on Army 6x6's with winch. Trucks just like new. Machines in excellent condition. Both have casing reel, catheads, tool guide rubber sheaves, spooling device. All tools and cables ready to drill. Platform all the way around for tools.

Also, 2 Idecos, truck mounted and all equipped.

1—Oil bit furnace with 2 burners. Reason for selling is we purchased new rotary. For prices write to Spafford & Sons, Bomoseen, Vermont.

#42 Air cylinder spudder, mounted on 6-cylinder Army truck, tandem, 10-wheel, with 1 new tire. Excellent condition. Complete set drilling tools, 2¼-3¼ joints for 6" and 8" holes. Itemized list tools upon request. Harry Leise, RD #1, Portersville, Pa.

1—#12 Bucyrus-Erie electric bit dresser, less motor, with furnace and blower, less fire brick. 2 bit quenching racks and misc. dollies and dies for 6" bits. Spare parts also included. Price $2,750.

1—Completely rebuilt 31 Stone. Mounted on 1947 International truck with complete string of 6" tools. Price, $2,795.

1—Completely rebuilt 31 Stone. Mounted on 1947 Chev truck with complete string of 4" tools. Price, $2,595.

1—Model 31 Stone mounted on a 1947 Mack. Has complete string of 6" tools. Price, $2,600.

1—55 Speed Star, serial No. 10162, U2 International engine, full starting casing reel & line, tool guide. All in excellent condition. Mounted on 1942 GMC truck in good running condition with complete string of 6" tools. Priced to sell. Gill Bit Sharpening **Co., Inc.,** P.O. Box 2375, Camp Croft, Spartanburg, S.C.

1—Model 71 Speed Star mounted on GMC 6x6, 600' cable and nearly new string drilling tools with 2¼x3¼x7 joints. Jars are Spang weldless. Price, $2,800. Erickson Well Drilling Co., Inc., 15 Deer Pond Dr., Leicester, Mass. Phone: TWinoaks 2-3976.

28-L Bucyrus-Erie, serial #77961, semi-mounted. Complete w/tool crane, 1,200' ⅞" drill line, 2,000' of ½" sand line. Waukesha gas or butane MZA engine. 55' derrick. New bearings, shocks, spudding gears, clutches. Machine must be seen to see value. $11,500. Max Renner Well Co., Inc., Minneapolis, Minn.

36-L Bucyrus-Erie machine powered by Waukesha engine. Is in good condition. Equipped with third leg. Price is reasonable. Call LI 6-3810, Barbourville, Ky., or write Mills & Garland, Bimble, Ky.

71 Speed Star, rubber mounted sheaves, shock on crown pulley, casing reel, 1,000-ft. 5/8 and 7/16 lines. Mounted on new '46 2-ton Chevrolet truck, 3,000 miles. Plenty of drilling and fishing tools for 4" and 6" holes. Hobart 300 amp DC welder with 12 KVA AC generator, trailer mounted. '51 2-ton Ford truck with winch, pipe trailer. Will sell all or any part. Write your wants. Virgil Morton, Monroeville, Ind.

MISCELLANEOUS FOR SALE

New pipe casing in stock: 3", 4", 6", 8", 10", 12". Reconditioned pipe casing in stock: 3", 4", 4½", 5", 6", 8", 10", 12". Cutting and threading facilities; attractive prices on request. H. Schwartz & Sons, 2235 N. Bodine St., Phila., Pa., GArfield 6-6464.

New and used pipe and casing. Also used well drilling rigs. Tom's Well Driller Supplies, 1225 Lancaster Ave., Reading, Pa. Phone SPruce 7-6331.

Army 4 x 4s and 6 x 6s, some like new. Schwartz Auto Parts, Lancaster Rd., Clinton, Mass. Phone: EMpire 5-6000.

One extra-heavy 30" quadruple, 60-ton capacity casing block with 18" sheaves. Complete including 6" forged bearing swivel hook. Maximum recommended rope size 1⅛". For quick sale asking price—½ off list. Bucyrus-Erie Co., South Milwaukee, Wis.

MISCELLANEOUS FOR SALE

Sale of all used cable drilling, fishing tools, rope sockets, jars, 25 stems, 20 bailers, 5 and 7" cement dump bailers, 150 drill bits, elevators, combination, friction, horn, slip, full circle, corrugated, side slot and bell sockets, jar rein, jar tongue sockets, latch jacks, rope grabs, rope spears, blind boxes, anvils, casing bowls, bumpers, drive clamps, drive heads, steel die nipples, casing, tubing, rod hooks, wall hooks, forgey jacks, circles, lifting jacks, fishing jars, rope knives, drill mills, casing mandrels, tubing and casing spears, rasps, spiders, rings, slips 2 to 12½", hollow reamers, spiral and star bits, wing subs, hole straighteners, 6" casing ripper, tubing sockets, spuds 5 to 13 inch, tool subs, swabs 2" to 7", casing tubing blocks, casing tubing hooks, chain and bull tongs, never-slips, tubing and pipe tongs, tool wrenches, wire ropes. Tri State Tool Co., Box 827, Parkersburg, W. Va., Phone: HUdson 5-5121.

ENGINES — BARGAINS

New unused Buda model 6B230 gasoline engine with radiator, clutch and electric starter. Suitable for 10-B, 22-T, 22-W, 24-L. $650 f.o.b. Erie, Pa.

New unused Buda model 6B273 gasoline engine, $500. With radiator, clutch and electric starter, $700. Suitable for 10-B, 22-T, 22-W, 24-L — f.o.b. Erie, Pa.

New unused Waukesha model 6WAKDU diesel enclosed power unit. With clutch and gasoline starting engine. For 48-L—$4,200 f.o.b. South Milwaukee, Wis.

Slightly used Buda model K428 gasoline engine. With radiator, clutch and electric starter. Approximately 400 hours operation. Suitable for 22-B, $450 f.o.b. Erie, Pa. Bucyrus-Erie Co., South Milwaukee, Wis. Mr. J. E. Smart, SO 2-0900.

Complete #12 B-E bit dressing machine with furnace, blower, tempering tank, etc. Drillers Supply Co. of Minn., 705 Pennsylvania Ave. So., Minneapolis 26, Minn.

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WELL BUSINESS FOR SALE

Established well drilling business for sale in Delaware Valley, southeastern Pennsylvania. Equipment includes three drills complete with tools and lines, pickup truck and other equipment. Priced very reasonable because owner wishes to retire. The Driller, Box 774, South Milwaukee, Wis.

Well drilling business. 50 Keystone, excellent condition. Located Adirondack, Tri Lakes Area, Pottersville, N.Y. $10 per foot established price. Enough work for two drills for the rest of the winter. Now is the time to buy, if one likes to work in cold and snow. Will NOT sell during summer. Asking $10,000. The Driller, Box 775, South Milwaukee, Wis.

EQUIPMENT WANTED

Good 500 or 501 Portadrill or something comparable. Farmers Well Service, c/o Willis E. Miller, Kalona, Iowa.

1,000-ft. rotary or cable rig. State equipment, condition, age, price. G.L., 2959 W. 25 Place, Chicago 23, Ill.

HELP WANTED

Experienced, reliable cable tool driller for rock and screen work. Steward Bros., Inc. P.O. Box 976, Schenectady, N.Y.

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Anderson . . .

(Continued from page 51)

buster to loosen each joint then speared it out with a casing spear, a joint at a time," Anderson continued. "The crew spent 10 days getting the pipe out. But it had to be done so we could collect our fee, which amounted to $17,000.

Anderson was born and raised at Joelton, Tenn., just 15 miles from his present home. He attended the University of Tennessee for two years, enrolling in the agricultural college. He left school in 1939 to accept a position as a traveling salesman for Dean Marble Co., Nashville, and covered the southern Kentucky area for the firm.

It was during his Kentucky stay that he became interested in well drilling, which came about through his constant proximity to the oil country surrounding Scotsville.

Andy remained with Dean Marble until 1945, when he set up his own real estate firm in Nashville. In 1947 he switched to well contracting.

He traveled to Marietta, Ohio, purchased an Ideco 16 from National Supply Co., mounted it on his truck and drove back to Nashville. He worked the machine for a year and then purchased his first Bucyrus-Erie rig—a 22-W. Anderson has since purchased a total of 24 Bucyrus-Erie drills, four or five at a time. He kept them in A-1 shape, repainted when necessary and traded every two or three years.

Nashville Headquarters

During most of the hectic first decade, Anderson had his headquarters in the heart of Nashville. In addition to a 30x30-ft. shop building, he had a 100-ft. square fenced lot adjacent to a railroad spurline and had his casing delivered direct to the lot. His home, until 1954, was located in the Glendale Park section.

He "retired" in 1957 to the peace and quiet of managing his 1,400-acre farm near Cedar Hill, 30 miles northwest of Nashville, and to raising Hereford beef cattle, thoroughbred bird dogs and registered Walker foxhounds. But now Andy is back, and this time probably to stay.

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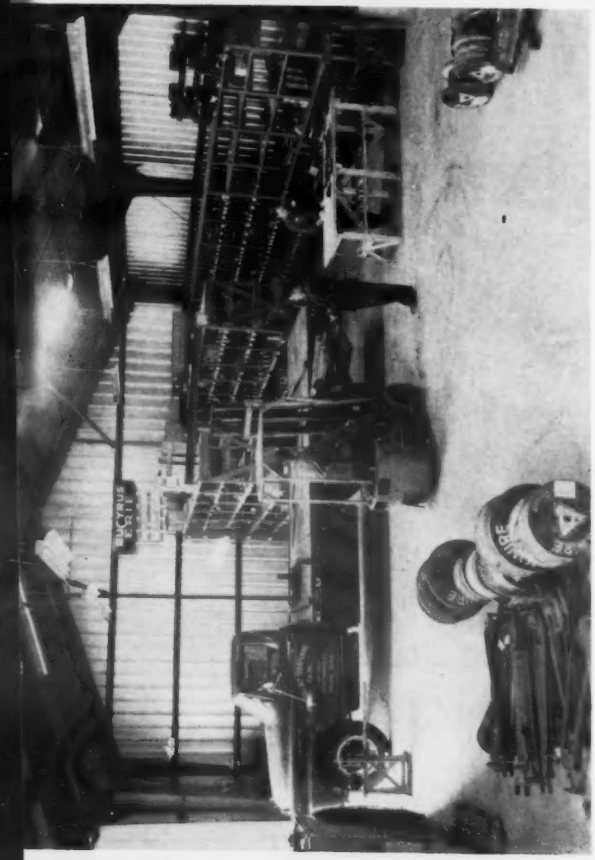

Here's the spare parts department of Gill Bit Sharpening Co. The Spartanburg (S.C.) distributor of the complete line of Bucyrus-Erie water well drills recently constructed a new building to streamline operations and give its customers the best possible service.

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